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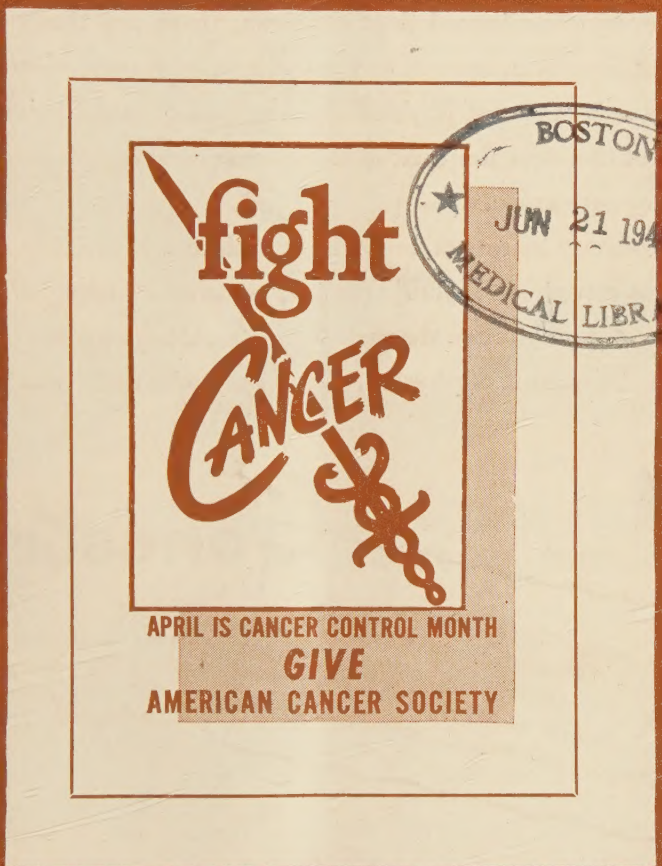


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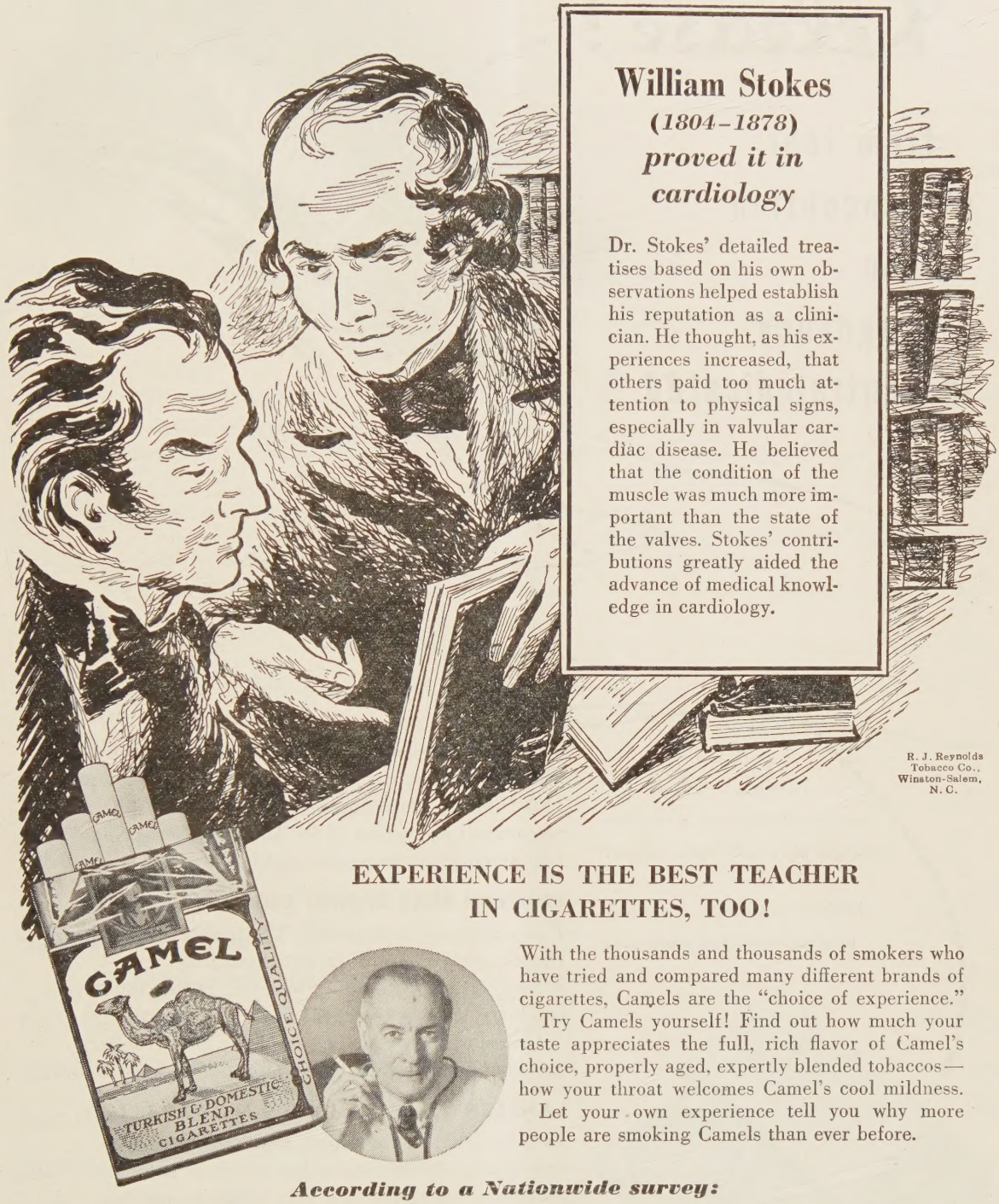


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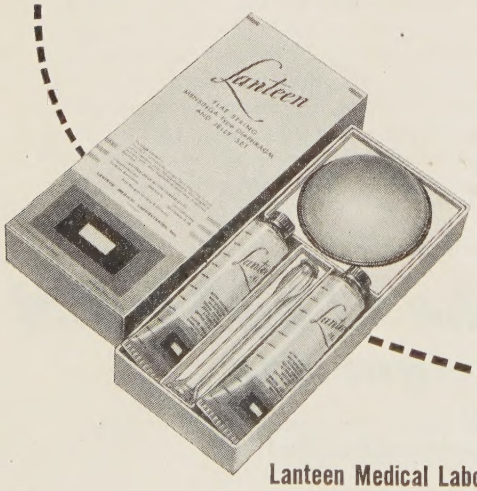


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VOL. 161, No. 4.
WHOLE No. 2783.

Entered as Second Class matter at the Post Office at Kutztown, Pa., under the Act of March 3, 1879. Office of Publication, 307 Main Street, Kutztown, Pa. Editorial and Executive Offices, 215 Fourth Avenue, New York 3, N.Y.

SINGLE COPIES.....FORTY CENTS
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## Radium-D—A New Source of Beta Irradiation In Ophthalmology

For a number of years, a few ophthalmologists in the large medical centers have been utilizing the beta rays from large amounts of radon to treat a number of eye conditions, especially corneal scars. Some brilliant results have been reported but the expense in carrying out the procedure has been so great that the treatment has not been popular.

Harold Swanberg, M. D., Quincy, Ill., in the March issue of the *Mississippi Valley Medical Journal* and *Radiologic Review* reports for the first time the therapeutic use of Radium-D. He has devised a plaque utilizing 10 mc. of Radium-D for ophthalmologic usage.

Radium-D is one of the disintegration products of radium-element but unlike all the others has a comparatively long life—a half value of 22.2 years. It is a pure beta radiator. The absence of penetrating and unwanted gamma rays is a great advantage to both the physician and the patient; the physician is not endangered by continuous exposure to the gamma rays and no essential radiation reaches the lens of the patient. Neither are any heavy lead storage containers necessary.

Professor A. D. Ruedemann, ophthalmology, Wayne University, who has given over 5000 beta irradiation treatments with radon, has been using one of the Radium-D applicators for three months and reports good clinical results. Using a 10 mc. applicator he finds a two minute contact application produces approximately the same clinical results as a 20 second exposure using 250 mc. of radon but with less local reaction.

The fact that a relatively small amount of Radium-D can be used to do the clinical work of a much larger amount of radon or radium-element makes the new applicator much more economical to use and therefore makes beta irradiation more readily available. Ruedemann has established the first Radium-D Clinic at the City of Detroit Receiving Hospital.

## N. Y. U. Lecture Series Caters To The Family Doctor

A community project to inform family doctors of current medical developments in heart disease, psychiatry, anaesthesia, dermatology, and rehabilitation and physical medicine is now in progress. The program embraces 24 clinical sessions, open, free of charge to members of the medical profession, with New York University College of Medicine faculty members in charge.

Dr. William Goldring, associate professor of medicine and sponsor of the plan said, "So far as is known, this is the first time a program of this nature, certainly one on such a large scale, has been attempted in New York City.

"If the program receives the response we anticipate, it is planned to expand its scope on a permanent basis. Future programs will possibly be presented throughout the year."

One hour of the two hour sessions are used for the presentation of subject matter, using patients in clinical procedure, and the second hour is used for open forum discussion in question and answer fashion.

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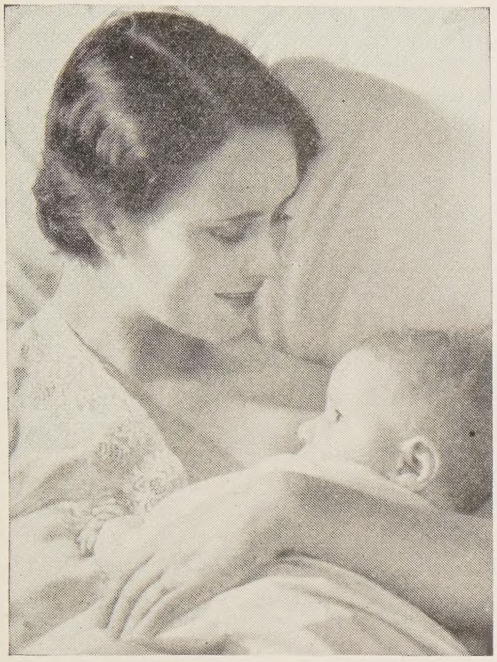

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# Open Forum

## FEED TO FOOD

T. SWANN HARDING
Falls Church, Va.

Domestic animals manufacture food for human beings out of the feed they eat. They produce the high class proteins of meat, milk, and eggs, out of many materials that men would not consume and, in this sense, are valuable concentrating machines. However, they vary greatly in efficiency.

In the first place, if a man were left on a desert island with a supply of corn and a lot of young pigs, he would do far better to eat the corn himself than to feed it to the pigs and eat them. For the pigs would lose a half to three-quarters of the calories in the corn in transforming it into pork and bacon.

An acre of ground will yield over a pound of protein if planted to clover, but only a sixth of that if planted to cereal grains, and still less if used for chicken or cattle feed. But suppose the problem was to find out which animals could produce 2600 calories for human food, using the least quantity of animal feed.

Pigs would do best, milk cows next best, laying hens, followed by poultry for meat next, then beef, then lamb. But if only feed concentrates were considered, the kind of cereal grains man could eat directly if he wished, the rank would be milk, lamb, pork, beef, eggs, with poultry meat last.

When it comes to the humanly edible animal protein produced per thousand calories of feed, the list is headed by milk, then eggs, poultry, meat, pork, beef, and lamb. But for efficiency in converting the protein of feed into human food protein milk and pork are tied, poultry meat comes next, followed by eggs, beef, and lamb.

But food contains more than calories and protein. There are minerals like iron and calcium, not to mention the various vitamins which meat can also supply in the diet, in addition to containing a protein better than any from vegetable sources, save that from wheat germ and from corn germ.

Despite the hog's superiority in converting feed into human food calories, it ranks below the cow and the laying hen when it comes to producing nutrients which give animal products a special value in the human diet.

The hog excells in meat production. Cattle and sheep manufacture thiamine, riboflavin, and niacin in their rumens; pigs and chickens have to be fed these vitamins if they are to produce them. But livestock eat many things unfit for human food and thus act as transformers. So, to get at the real efficiency of animals as producers of human food, you have also to consider how much pasture, silage, and hay they consume.

The rating of beef cattle and sheep rises insofar as they feed on the range or eat roughage not used for human food. Immediately large quantities of concentrates are used, as in feeding dairy cows, or in the heavy fattening of meat animals, the picture changes, and the latter, at least, is highly uneconomical practice. Finally, production per acre and per unit of labor must be considered, also the valuable nonfood production made by domestic animals, such as leather.

When all these factors enter into consideration, market-milk production tops everything else in efficiently transforming feed into food. Butter production shares this rating only if the accompanying skim milk is used for human food. Egg production then ranks above pork, though broiler production ranks very low. When beef cattle and sheep use the range and roughage, they get a high priority rating, which concentrates will lower. Foods, palatable to both men and animals should, if used for animals, be fed to foster high milk and egg production.

In assaying the efficiency of the animals in producing human food, the consumption of foods also valuable for human beings, and the overall value of the animal's production must both be considered. For animals and men do draw on the same basic food supply and do compete with one another for many foods.

Granite Gables

## Bellevue Schools of Nursing Celebrates 75th Anniversary in May

Planned jointly by its Board of Managers and Alumnae Association, the 75th anniversary of the founding of the Bellevue Schools of Nursing, to be celebrated in May, will highlight the history and progress of the nursing profession as well as many of the advances made in medical science during the past three-quarters of a century. Commencing with a historical exhibit, May 6, the celebration will reach a climax at a dinner and reunion at the Waldorf-Astoria hotel, May 10.

The two-fold purpose of this event is to honor all those nurses who are now in service in the City hospitals and to aid the recruiting program for the profession.

Recorded history shows that the "Training School for Nurses at Bellevue Hospital," was the first school of nursing in the United States to be founded upon the "Nightengale Plan."

The School has pioneered in two fields of graduate nursing outside of the hospital—private duty and district nursing. Standards of service and fees were published so that doctors seeking nursing care for private patients were assured of obtaining competent care by reliable nurses. The demonstration of district nursing was made by Mr. and Mrs. William Henry Osborn.

In the Fifth Annual Report is found this modest account of an endeavor which ultimately spread to all parts of the country: "Last February a Nurse, who had just graduated, decided to devote herself to nursing the sick poor in their own homes under the auspices of the City Mission. This District Nurse is supported by one of the Managers of the Training School." This first District Nurse in the United States was Frances H. Root, a graduate of the Second Graduating Class of Bellevue.

## Need For Negro Health Plan Urged At Meeting

The theme of this year's National Negro Health Week is, "A Practical Health Program for Myself and My Family. Learn what we ought to know—Health Education. Do what we ought to do—Healthful Living." The meetings which were conducted from April 4 to 11, were headed by Dr. Roscoe C. Brown, chief of the Office of Negro Health Work, public health service, federal security agency.

In the participating communities, the individual negro will be urged to clean his home and premises, check his health habits, seek proper medical aid and obtain corrective treatment when needed.

His child will receive a physical check-up at school and will be taught fundamentals of good health through participation in health plays and contests. Civic groups and health departments will stage clean-up campaigns, arrange for group x-rays and blood tests, and encourage follow through activity.

Advertising media will include radio stations, newspapers and the minister, who will carry the message to their audiences. Everyone interested in community health is urged to offer his assistance.

It has been reported that, when the negro is ill only one hospital bed out of every thousand is open to him, and it may be in a hospital from which his colored doctor is barred. His wife may have to be attended at birth by a midwife. His children may be excluded from playgrounds and forced to play in the streets and alleys. In some states they *must* attend inferior schools and receive poor training in hygiene.

Thus the average negro dies at 54 while the white man enjoys nine more years of life. Twice as many negro mothers die in childbirth and almost twice as many infants die during their first year.

The tuberculosis death rate for negroes is three times the white rate. Syphilis kills five times as many negroes.

Negro health statistics are not as gloomy reading today as they were back in 1910. In that year, one out of every four negro babies died in infancy and the average life expectancy for Negroes was only 36 years. The progress of medical science in combating diseases of childhood and improving techniques for early detection of tuberculosis and spyhilis have benefited both the Negro and the white man. But the record shows that negro health is still lagging behind.

Although State and Federal legislation may be necessary to give the negro a better chance to enjoy good health and long life, National Negro Health Week will emphasize many ways in which he and his community can improve present conditions.

Special tribute will be paid to Booker T. Washington, whose birthday is celebrated, April 5. Dr. Washington founded the Health Week movement in 1915. After his death, the annual program was carried on at Tuskegee Institute and Howard University until 1932, when it was made a part of the Public Health Service year-round activities.

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# News Items

**Iowa Initiates Dental Post-Graduate Course.**—Dean A. W. Bryan, University of Iowa, College of Dentistry, has announced a short post-graduate course in preventive dentistry and pedodontics which was in session from January 19, to the 23rd. This is just the beginning since other courses of a similar nature are being planned for the future with a particularly intensive program being set up for June and July.

**Yale Appoints Willard as Assistant Dean.**—Dr. William R. Willard, associate professor of Public Health, has been named assistant dean in charge of Postgraduate Medical Education, Yale University. President Seymour, who recently announced that there is in progress now an expansion program of the institution's facilities for postgraduate education of Connecticut physicians at the School of Medicine, also said that this appointment of Dr. Willard continues the close cooperation between the State Medical Society and Yale. This stems back to the earliest origins of the School of Medicine. Dr. Willard's new duties will include that of setting up teaching facilities which do not now exist for Connecticut physicians.

The expanded program will have two aims: 1. Provision for short and long refresher courses to be taken by Connecticut physicians; and 2. Assistance to small Connecticut hospitals in training resident physicians who are preparing to become specialists in various medical disciplines.

Yale and the Connecticut State Medical Society now cooperate in postgraduate medical education in three main endeavors; 1. The year round operation of an Institute of Occupational Medicine and Hygiene under Dr. Ronald F. Buchan; 2. Cooperation with various state mental institutions by the Department of Psychiatry and Mental Hygiene under Dr. Frederick C. Redlich; and 3. The Clinical Congress of the state society which is held at Yale each Fall.

**Tropical Medicine and Malaria Meeting Scheduled.**—The Fourth International Congresses on Tropical Medicine and Malaria has been held in Washington, May 10-18, under the sponsorship of the Department of State. The year 1938, in Amsterdam, was the time and place of the last meeting of the Congresses.

To facilitate the program, the meeting was called to order in twelve Sections as follows: Research and teaching institutes, tropical climate and physiology, bacterial and spirochetal diseases, virus and rickettsial diseases, malaria, helminthic diseases, protozoan diseases, nutritional diseases of the tropics, tropical dermatology and mycology, tropical veterinary medicine, public health, medical and veterinary entomology.

**Schering Completes Food Relief Drive.**—Employees of Schering Corporation, Bloomfield and Union, N. J., have donated over 5,000 cans of assorted meats and evaporated milk in their recent food relief drive for aid to the stricken people of Europe. The foodstuffs were transferred to the American Council of Voluntary Relief Agencies for distribution, with the company assuming total cost of shipment abroad.

**Atomic Energy Commission Budgets Spending Money.**—The Atomic Energy Commission reports long awaited plans for expending the $5,000,000 which it received from Congress last July for cancer research. A four-pronged attack is contemplate: 1. Provision of free radioisotopes to qualified handlers in approved research and treatment institutions; 2. Financial support of research projects in hospitals, clinics, and universities; 3. Establishment of cancer investigation facilities, including a small number of hospital beds, at four Commission operated laboratories, and 4. Continued aid to Committee on Atomic Casualties (National Research Council), investigating the long term effects on survivors of the Nagasaki and Hiroshima bomb explosions.

**Progress Reported in Treatment of the Heart.**—Persons with heart trouble today are in a "safer boat" than they would have been at any previous time in the history of the world, Howard Blakeslee, science editor of the Associated Press, declares in *Know Your Heart,* 32 page pamphlet issued by the Public Affairs Committee, Inc., in cooperation with the American Heart Association.

"Much can be done for hearts that was never before possible," Mr. Blakeslee points out . . . . "Today there is the cure of subacute bacterial endocarditis. Until the end of the last war this condition was 97 percent fatal by the most optimistic estimates. The rate of present cures in some instances is around 75 percent."

It was reported that many other drugs are being used to increase the comfort of individuals with heart disorders. The better therapeutic use of oxygen, the administration of mercurial drugs to aid in the elimination of excessive fluid in the tissues, called edema or dropsy, are other examples. At the end of the text, Mr. Blakeslee's handbook on heart disease answers the twenty-one commonest questions asked about heart troubles.

**TB Pamphlet Now Available.**—The 1948 edition with revised statistics of *Facts and Figures About Infantile Paralysis,* a publication of the National Foundation for Infantile Paralysis, is now available to physicians and public health workers.

Incidence of Infantile paralysis in the United States is shown in tables, maps and charts. Other statistics furnish information on age and

sex distribution, case rates, crippling conditions and mortality. For the first time, this publication includes data on the disease in foreign countries.

Free copies of the booklet may be had by writing Education Service, The National Foundation for Infantile Paralysis, 120 Broadway, New York.

**Plummer Reports on Health Status of Working Females.**—Dr. Norman Plummer, medical director of the New York Telephone Company, told *Health News* recently that, "Many women today are trying to handle too many jobs and the result is not conducive to the betterment of either the home or the office. Nervous instability and anxiety neuroses among female workers are frequently traceable to the broader social aspects of their way of living rather than to organic disease."

Dr. Plummer said his staff is paying increasing attention to these factors in diagnostic practice. "In many cases the desires of a woman to continue in industry, even though it may not be necessary for her to do so, have overshadowed the health factors involved. This ofttimes works a definite injustice to the individual concerned."

**Meeting Set For the National Gastroenterological Association.**—The National Gastroenterological Association will hold its Thirteenth Scientific Session at the Hotel Pennsylvania in New York City on June 7-10. The program this year will consist of a Symposia and there will be one Panel discussion. At the Annual Banquet, June 8, the winner of the Association's 1948 cash prize award contest for the best unpublished contribution on Gastroenterology or on an allied subject, will receive the prize of $100 and a Certificate of Merit.

**Anatomy Professor Sails for Europe.**—Leonell C. Strong, associate professor of anatomy, Yale University School of Medicine, will sail for Europe early this spring to deliver a series of lectures on cancer research in Belgian Universities. Dr. and Mrs. Strong will be the guests of the National Cancer Foundation and the National Educational Foundation in Belgium. In addition to his lectures, the noted geneticist will visit laboratories in Belgium and other nearby countries.

Dr. Strong, as a result of 30 years of experimentation found that cancer inducing chemicals, when injected into mice, will also bring about permanent changes in the germ plasm of mice. The significance of this finding is that since the changes are induced by the same chemical that will induce cancer, then perhaps cancer may arise by some process comparable to mutation. The professor's theory holds that the rational treatment of a disease should be based upon its true biological nature and therefore this process of mutation should be taken into consideration if this serious disease is to be controlled by man.

**Oral Examination To Be Held in Washington.**—The general oral and pathology examinations (Part 11) for all candidates will be conducted in Washington, D. C., by the American Board of Obstetrics and Gynecology from May 16 to May 22. Formal notice of the exact time of each candidate's examination will be sent him several weeks in advance of the examination dates. Applications are now being, and will be received until November 1, 1948 for the 1949 examinations.

**VA Work Shop—A-1 Revitalizer.**—Repair work carried on at VA supply depots in Somerville, N. J., Hines, Ill., Montgomery, Ala., and Wilmington, Calif., by a staff of repairmen having between 10 and 25 years experience working with technical medical equipment have brought into shape nearly $2,800,000 of valuable medical equipment, consisting of x-ray machines, electrocardiograph equipment, anesthesia apparatus and the like. The service was established on November 1, 1946.

The total cost of putting this equipment into usable shape has been estimated by VA to be about 7.14 percent of the value of the equipment. Repair costs include salaries of repairmen, parts, electrical power and lights, and every other expense that could be attributed to the repair service.

**Construction Begins in '48 for N.Y.U.—Bellevue Medical Center.**—Clearance of the site for the University section of the New York University-Bellevue Medical Center, and construction of some new buildings will begin by midsummer or early fall. First buildings on which construction will be started will be the Hall of Residence, which will provide approximately 300 dormitory rooms for undergraduate and graduate medical students, particularly those whose services at Bellevue Hospital require all night call; the Alumni Hall and new clinical laboratories and class rooms for the College of Medicine fall next in line.

**Quine Library Grows as Reference Giant.**—The Quine Library of Medical Sciences at the Chicago Professional Colleges of the University of Illinois now ranks as one of the largest university medical libraries in the nation with a total of 84,910 volumes. The annual rate of growth is 4,000 volumes. The staff at the library has made a special effort to fill in files of foreign periodicals for the war years. With the exception of the German journals, nearly complete sets of most of the foreign titles which continued publication during the war have been received. In addition about 300 volumes of French, German and Italian medical works have come in through the Library of Congress cooperative project for the acquisition of wartime publications.

**Thallium Pamphlet Again Seen on The Market.**—Recent cases of poisoning from thallium used in rodenticides, and requests for information from public health agencies and private physicians, have resulted in the reprinting of a limited supply of *Thallium: A Review and Summary of Medical Literature,* Supplement No. 197 to the Public Health Reports, weekly scientific publication of the U. S. Public Health Service, Federal Security Agency.

The Army, Navy and Public Health Service used the pamphlet during the war, when it was prepared at the request of the Committee on Insect and Rodent Control of the Office of Scientific Research and Development.

Among the subjects covered in the review are the history of thallium, its source, properties and uses, toxicologic properties, thallium poisoning in humans, and the therapy of poisoning by the chemical. The author list 298 sources of information from the medical literature of Belgium, Canada, China, France, Germany, Great Britain, Italy, Japan and other countries, as well as the United States.

**Blue Cross Dips Into Own Treasure to Meet Differences.**—After discussion with representatives of the Hospital Council of Philadelphia concerning recent increases in hospital costs, the Blue Cross will add six percent, to be drawn from its sources and not through raising subscriber rates, to all semi-monthly payments made to member hospitals throughout 1948. However, Blue Cross will operate at a loss of approximately $183,000 for 1947 and will operate very close to even during this year. This action will mean approximately $600,000 in additional income to the hospitals over and above the $10,000,000 budgeted payments contemplated under the present schedule.

**Public Health Fellowships Offered to Eligibles.**—Fellowships leading to ones' MA in Public Health in the field of Health Education are again being offered to any qualified U.S. citizen between the ages of 22 and 40, and who are holding recognized Bachelor's degrees.

The fellowship consists of eight or nine months academic work, which begins with the fall term in 1948, and three months of supervised field experience in community health education activities in a local health department. The academic training includes courses in public health administration, epidemiology, public health and school education, problems in health education, community organization, information techniques, and others.

Veterans are encouraged to apply, and will be paid the difference between their subsistence allowance under the G-I Bill of Rights and the monthly stipend. Information can be obtained by writing the National Foundation for Infantile Paralysis, 120 Broadway, New York 5.

**Common Cold Costs Run Into Billions.**—In an exhaustive study of the cost to the American people of the common cold, the Statistical Bulletin of the Metropolitan Life Insurance Company, estimates that its cost is well over one billion dollars a year, thus qualifying as a major public health problem.

The study indicates that from 40 to 50 percent of all days lost from work are attributable to colds and their complications, with an estimated loss of at least one working day per employe per annum.

**Clinical Research Meeting on New York Calender.**—The New York Academy of Medicine has on its agenda a meeting for April 29, where investigators of New York City and vicinity may present results of original research in Clinical Medicine.

This meeting is being arranged by the Committee on Medical Education of the Academy with the following stipulations:

1. Presentations will be confined to original research work in clinical medicine (including medicine, surgery, pathology, obstetrics and all other clinical branches), or be applicable to clinical medicine.

2. Preference will be given to papers which have not been presented before a national or local society (other than intramural).

3. In submitting application, investigators are requested to state whether this work has been published or has been submitted for publication; also, in cases where investigator is working under the head of department of a hospital or research institute, approval of the head of department must accompany the application.

The publication of presentations is not a necessary condition but the Academy plans to publish in the June Bulletin, abstracts of presentation if the author so desires. In order to expedite publication of abstracts, the Committee requests that the abstract submitted by the investigator be carefully prepared in the form in which publication is desired with the understanding that publication of the abstract in the Bulletin shall not preclude publication by the author in any other journal.

**U. of I. Recipient of $2,500 Gift.**—The Borden Company Foundation, Inc., has contributed $2,500 to the University of Illinois for the establishment of research awards in medicine. The gifts will be officially known as the Borden Undergraduate Research Awards in Medicine. They will be administered under the direction of Dr. John B. Youmans, dean of the College of Medicine. All students in the graduation class of the College of Medicine who have carried out undergraduate research in the medical field will be eligible for the award, to be presented at the time of graduation.

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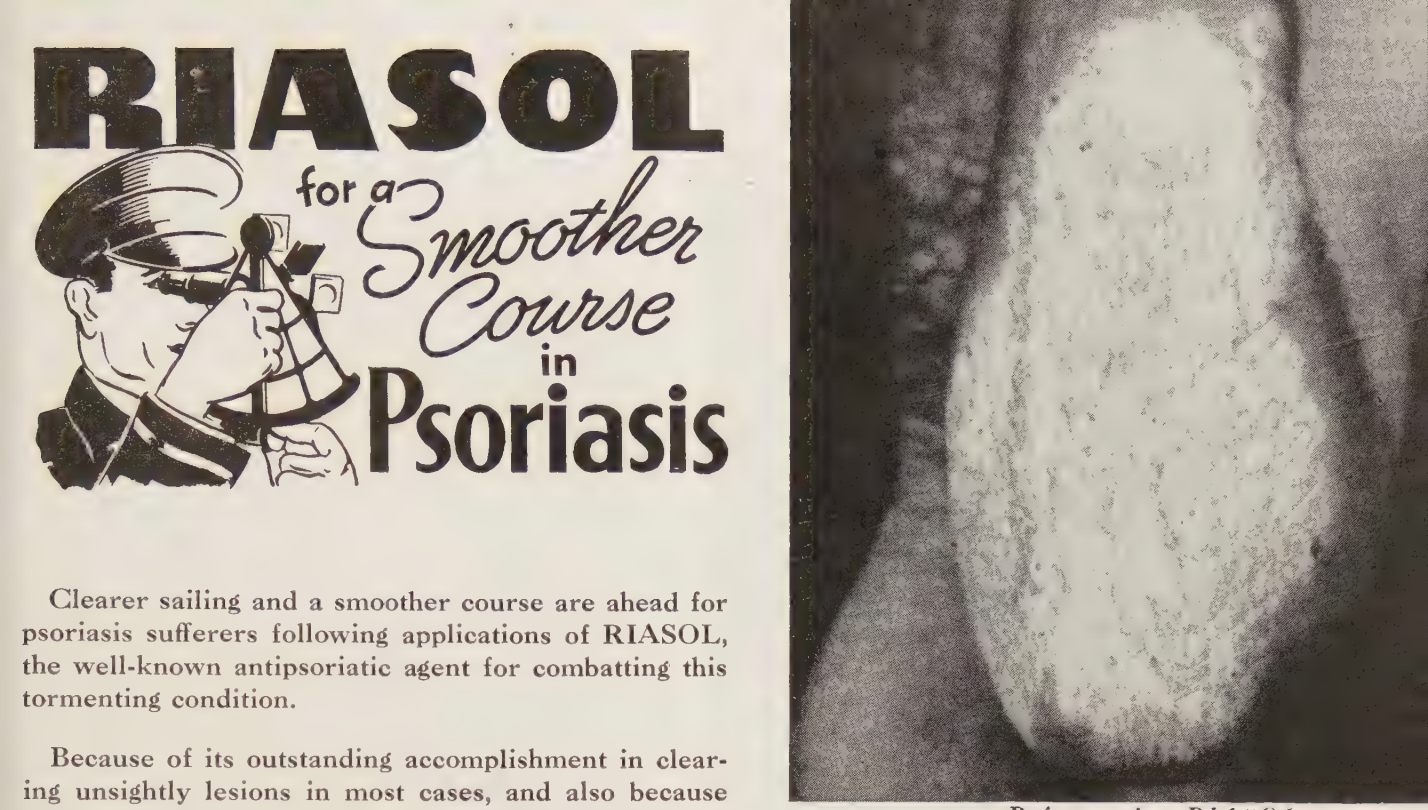

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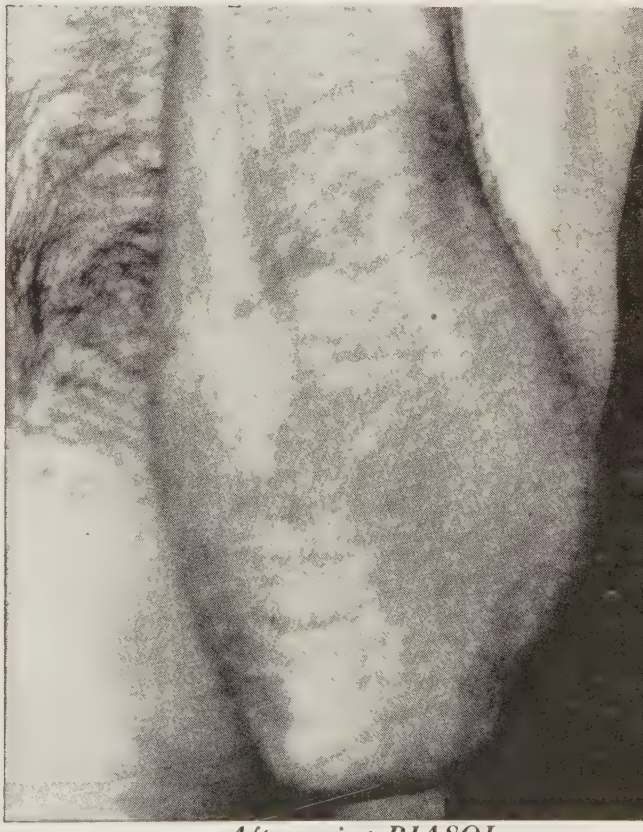

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**RIASOL for PSORIASIS**

## Stanford Professor Describes Differences Between Valley Fever and Tuberculosis

"Doctors must be alert," Dr. Charles E. Smith, Stanford professor of public health and preventive medicine said recently before the general session of the American College of Physicians and Surgeons, "to distinguish between tuberculosis and Valley Fever, which closely mimics the symptoms of tuberculosis but is rarely dangerous and does not require the drastic treatment needed by tuberculosis patients."

The infection has benign forms so mild that there are no symptoms at all, but in some of its more complicated phases clinical symptoms develop which are identical with those of tuberculosis.

These symptoms include sporadic red swellings on the body, lung lesions, and more rarely a usually fatal progressive infection, which like advanced tuberculosis, spreads rapidly throughout the body.

Diagnosis can be made by three methods.

The first step is skin test with coccidioidin, an extract of the disease germ which indicates infection much as does the tuberculin skin test.

This coccidioidin skin test can either rule out infection or indicate that a patient probably has an infection.

Clinching evidence can then be secured through actual recovery of the fungus (mould responsible for an infection) from a patient's sputum or stomach contents. Blood test can also be made which will assist in establishing the diagnosis.

Co-authors of the paper presented by Dr. Smith were Dr. Rodney R. Beard, and Margaret Saito.

The paper, reporting a study of 274 cases of coccidioidal lung cavities, pointed out that in most instances the pulmonary cavities do not menace the health of the patient, and that often the patient can lead an entirely normal life even if the cavity stays open, which it sometimes does permanently.

Dr. Smith's report covered one aspect of 12 years of research at Stanford and in the department of public health laboratories at the university's medical school in San Francisco. This research indicates that the disease, Valley Fever, flourishes in certain areas of California (particularly in the southern two thirds of the San Joaquin Valley), Arizona, western Texas, southern New Mexico, and generally all the areas along the Rio Grande to the Gulf of Mexico.

The most recent research stems from war-time experiments carried on at four Army airfields in central and southern California. The scientists established dust control measures at the various airfields which were effective in controlling seasonal epidemics of the fever. These dust control measures included the oiling of drill fields, planting of grass, paving of roads, and requiring the men to stay off dusty paths and fields.

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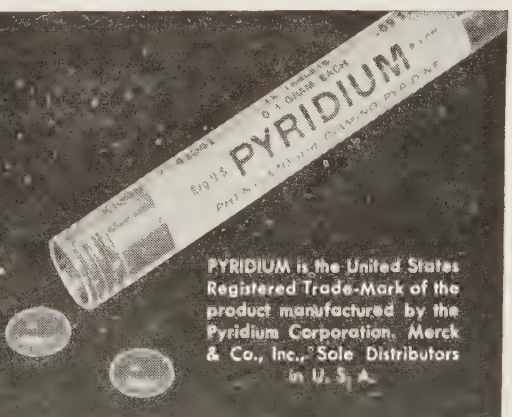


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# Critique

**Rate of living** "In general, the duration of life varies inversely as the rate of energy expenditure during life," so said Raymond Pearl. He held that inherent vitality was a capacity rather than a velocity or rate—the total potential capacity of the organism to perform vital functions in complete absence of the exogenous derivation of matter or energy. The more rapidly that vitality was utilized the shorter the time that such actions could continue. Finally, he believed that inherent vitality was a function of the individual organism determined apparently by inheritance.

**Foot-and-mouth** The United States effort to stamp out foot-and-mouth disease in Mexico, with the assistance of Mexican veterinarians and Mexican government cooperation, struck a snag when too many cattle had to be destroyed for the people, relatively uneducated as they were, to stand for it. Ready means of education did not exist to prove to them that the disease could only be eradicated by the elimination not only of all animals suffering from it, but of all that has been exposed to it. Consequently local politicians began to find that an anti-American attitude paid off well in votes and the eradication squads were met with hostility and even guns—for in one instance seven Mexicans were almost literally torn to pieces by an infuriated mob they went to instruct. In consequence "La Aftosa", as the Mexicans call it, will hereafter be fought by quarantine and vaccine, neither one of which are tried and true remedies. If it gets into the U. S. it will cause enormous losses.

**Phase microscope** The new phase microscope which makes it possible actually to see a virus killing a living cell should prove extremely useful in pathology. The use of this microscope makes cells visible without their being stained. The stains, while rendering the cells visible, also deprive them of life, hence the scientist was limited in what he could see.

**Farm health** As usual this year the National Conference on Rural Health found that the best developed school health programs were in urban rather than rural communities, that 40 million Americans—mostly in rural areas—do not have even a local health department, and that many rural communities altogether lack physicians, nurses, hospitals, and laboratory and x-ray service. Dr. Edward L. Bortz, president of the A M A, which sponsors these meetings, was present and pointed piously to the masses of helpful data the Association had collected. He announced the AMA's willingness to work on this problem but he said solutions must be sought at the local and community levels, though "All units of the AMA are collaborating in the interest of rural health."

**Your answer depends** You may also wonder who is ever interviewed by the Gallup poll people; we do not wonder so much, not that we have ever been asked questions, but we have known personally a young man who made his living for a while by asking the questions of various people. The funny thing is that answers to questions depend a great deal upon the type of person interviewed. Rotund respondents answer in one way questions which lean and reticent people have been found to answer quite differently.

What the respondent answers depends largely upon whether he is corpulent or emaciated, garrulous or reticent, convivial or taciturn. It is even possible to classify respondents in a public opinion poll as to certain general personality characteristics. Furthermore robust interviewers are much more unlikely to report fat people as excessively obese than are thin interviewers.

The physician might learn much from this because he has to ask many questions. For one thing he should remember that patients' spontaneous complaints are rarely what they directly purport to be. They may be mere reflections of situations quite remote from the organ or part of the body to which they are glibly referred. For another the reply to the question is undoubtedly conditioned by the physical and psychological character of the patient. In other words, a physician can be way off the track if he takes as final truth the answers made to his questions. Instead he must regard the reply as a point of departure which, on skilled analysis, may yield a fragment of truth.

**Aerosporin** This new antibiotic, which occurs in soil and in the tap water of Chicago, is unusual in that it actually kills whooping cough germs, and does not merely maim them or prevent them from reproducing as do other antibiotics. It is also many hundred times more powerful than streptomycin against germs for which it proves effective. It was discovered at the Wellcome Physiological Laboratories and is produced by the same organism that produces polymyxin which was discovered at Johns Hopkins a year or so ago.

**Save grain** Why does saving grain help feed starving Europeans? First, what is feed and what is food grain? It is impossible to make any clear-cut distinction. Even before World War II we used from 15 to 20 percent of our wheat, usually regarded as a food grain primarily, to feed livestock, while corn and oats are both widely eaten by human beings. However, it takes from 7 to 10 pounds of grain, fed to poultry or animals, to make a pound of meat in the butcher shop. It takes 7 pounds of grain to produce 1 pound of pork or lard. It takes 8 pounds to produce 1 of dressed poultry and 5-6 pounds to make 8 eggs, roughly a pound. It takes 1 pound of grain to make 1 pound of milk. And both eggs and milk are far more dilute foods than meat. It takes about 10 pounds of grain to make 1 of grain-fed beef, the fattening process included. If hogs or beef are

marketed excessively heavy this requires more grain still. But 1 pound of grain eaten directly will provide about 1,600 calories and that is a whole day's allowance, or more, for an average European today. Incidentally a dozen large-size eggs are about equivalent to 1½ pounds of meat as an alternate food. Priced at 60 cents a dozen they will supply protein food at a rate of about 40 cents a pound.

**Forthcoming food** U. S. civilians will probably eat a little less food in 1948 than in near-record 1947—but that will be more food than in any year before 1945. If growing weather is favorable, crops to equal the record ones of 1947 may be anticipated, but decline of livestock numbers, which has gone on for some years now, will make foods from that source less plentiful. This condition may continue for sometime too because, prices being high, livestock owners are tempted to sell all they can in hopes of rebuilding even their breeding herds later at lower prices—same thing you try to do if you own real estate.

Domestic consumers will get more sugar, rice, dried fruits, and dried whole milk this year than last, and supplies of other foods will be about the same as in 1947. But meat consumption will run from 143 to 146 pounds per person, the fifth highest rate of consumption in the past 25 years, but 5-7 percent below last year. The per capita consumption of most food items will exceed the 1935-39 average, the exceptions being fresh apples, lamb, mutton, butter, shortening, potatoes, sweetpotatoes, and some cereal products.

The Critic

## Personals

*Dr. Robert Boggs* has been newly appointed as acting dean of the New York Post-Graduate Medical School, and is now serving as assistant dean of New York University College of Medicine.

During the war, Dr. Boggs was medical officer of the U. S. S. Wichita in the Pacific and was also stationed at Columbia University and St. Albans Naval Hospital. He is a fellow of the AMA, and New York Academy of Medicine and a member of the Harvard Society.

Appointment of associate deans in the division of biological sciences at the University of Chicago go to *Merle Coulter,* internationally famous biologist and professor of botany and *Dr. Wright Adams,* associate professor of medicine. Dr. Adams, who has been in the department of medicine at the university for the past 16 years, will be responsible for the clinical departments and the School of Medicine. Coulter is the author of *The Story of the Plant Kingdom,* which has been adopted as a standard reference on plant genetics.

*Dr. Louis K. Diamond,* noted authority on hemotology and assistant professor of pediatrics at Harvard Medical School, Boston, has been selected technical director of the American Red Cross National Blood Program. Dr. Diamond will plan and supervise technical phases of the new program, designed eventually to provide blood and blood derivatives to the entire nation without charge for the products. At present he is director of the Boston Children's Hospital Blood Bank and Research Laboratory, director of the Blood Grouping Laboratory of Boston and consultant in pediatrics and hemotology to the Massachusetts General Hospital, the New England Hospital for Women and Children, and the Wesson Maternity Hospital.

*Dr. Weston A. Price,* 77 years old, pioneer in the field of modern dentistry and internationally known authority on the relationship of dental health to nutrition, died recently of heart failure at his Santa Monica, California home. Convinced that it was better to study why healthy people were healthy than to study disease, he began his travels to the remote areas of the earth, searching out primitive peoples untouched by civilization.

Traveling over 100,000 miles, Dr. Price visited tribes in the High Alps, Outer Hebrides, High Andes, the interior of Africa and Australia, and parts of the North American continent. The irreplaceable photographic material and notes he collected include over 15,000 original photographs, 4000 lantern slides, and a library of strip film lectures. This collection was given to the American Academy of Applied Nutrition a few months prior to his death.

*Dr. Elmer L. DeGowin,* associate professor of internal medicine at the University of Iowa Medical School, has accepted assignment to the Committee on Blood and Blood Derivatives of the National Research Council's Division of Medical Sciences. The committee will advise public agencies on blood transfusions, blood derivatives, and plasma fractions.

The three women who have been selected to be dietetic internes at the University of Iowa hospitals for a 12-month period are: *Rosetta Cerney,* Solon, Ia.; *Mary Puchner,* Edgar, Wisc., and *Norma Jean Voss,* Freeport, Ill. During their appointments the internes will receive training in all aspects of the work of a dietitian. Their program will be supervised by Dr. Kate Daum, director of nutrition at the University hospitals.

*Dicran A. Berberian, M. D.,* formerly chairman of the department of bacteriology and parasitology at the American University of Beirut, Lebanon, is now a senior investigator in the department of chemotherapy of the Sterling-Winthrop Research Institute, Rensselaer, N. Y. Dr. Berberian is also an assistant professor of medicine at the Albany Medical School, where he is lecturing on treatment of tropical diseases.

Author of many scientific papers, Dr. Berberian's latest publication is on "The Use of DDT Residual Spray in Malaria Control," published by the Palestine Arab Medical Association. While in Lebanon, Dr. Berberian helped to prove the value of the new drug Aralen, which is a recent discovery in the treatment of malaria. The doctor treated entire village populations with this drug in comparing its powers with that of older products.

•

Head of the department of surgery at the University of Illinois, *Dr. Warren H. Cole,* has been chosen senior scientist attaché to the United States Mission to Britain for science and technology. The mission is to be conducted under the jurisdiction of the U. S. Department of State, and Dr. Cole's service is to last three months acting as the representative in surgery. The mission is designed to establish liaison with British scientists in various fields, including medicine, engineering, and chemistry.

*Dr. Clarence E. de la Chapelle,* associate dean of New York University College of Medicine has been appointed a director of medicine at Lenox Hill Hospital, N. Y. For 15 years he has been chief of the hospital's Cardiovascular Service and Clinic.

*Dr. Eduardo Maldonado* of Quito, Equador and New York, will serve as medical supervisor of the Foreign Sales Division, Schering, Corp. Dr. Maldonado, will direct clinical research and medical service activities for the company in Latin America.

Heading the new Los Angeles Medical School, University of California will be *Dr. Stafford L. Warren,* who as an army colonel, was in charge of all medical activities on the Atomic bomb projects at Oakridge, Hanford and Los Alamos. Walter Wurdeman and Welton Becket, have been named executive architects of the $10,500,000 project.

*Dr. Sidney P. Colowick,* recipient of the Eli Lilly award in biological chemistry in 1947, has been appointed associate professor of biological chemistry at the University of Illinois College of Medicine. He has recently served as an associate in the division of nutrition and physiology at the Public Health Research Institute, New York City. During the war he conducted civilian research on chemical warfare agents under contract with the Office of Scientific Research and Development.


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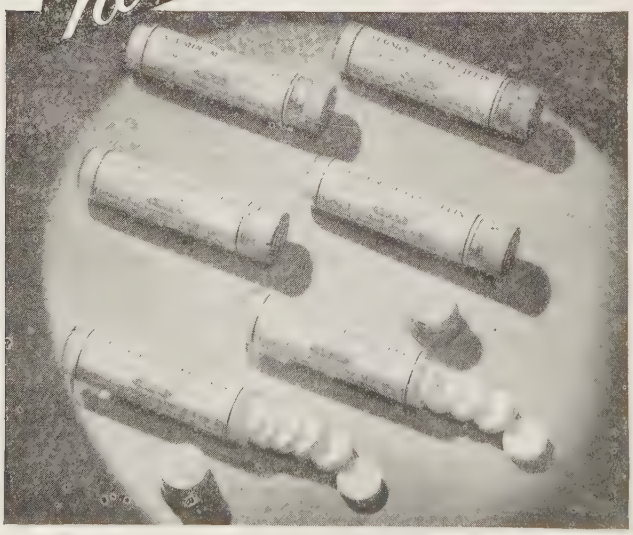

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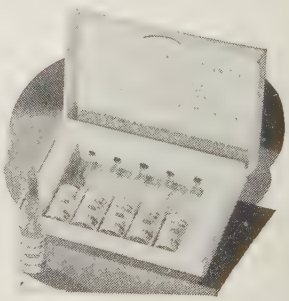

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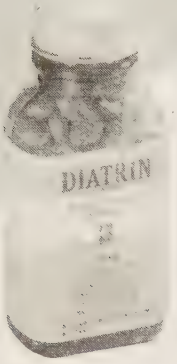


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THE MEDICAL JOURNAL AND RECORD PUBLISHING CO., INC.

VOL. 161, No. 4 APRIL, 1948 WHOLE No. 2783

# THE EFFECT OF HISTAMINE TREATMENT IN DISEASES OF THE SKELETAL SYSTEM*

OTTO C. KESTLER, M. D.
New York City

## Introduction

It is not widely recognized that the use of histamine in various conditions was first instituted by *Dr. Desiderius Deutsch* in 1929. This author had the privilege of working with Dr. Deutsch on his early experiments with the drug. This paper is presented because there is a current interest in histamine in recent literature. It is a review of more than 300 cases on the treatment of diseases of the skeletal system by this method during a period of five and one-half years.

Some patients, representative in this study, were seen in the out-patient department, New York Polyclinic Medical School and Hospital; others were treated in the Orthopedic Department of the same hospital; and a great number were private patients. Included in this article is a preliminary report on the intravenous application of histamine in the form of drop infusion in cases of rheumatoid and osteoarthritis.

In my opinion Dr. Deutsch's greatest contribution was his recognition of the problem and subsequent solution of the question:

*Should histamine be produced through application of heat indirectly if we can apply it in prepared form locally?*

First Dr. Deutsch applied subcutaneous and intramuscular injections. Painful reactions and very brief rather than lasting effects necessitated a different form of application—iontophoresis.

It is actually for the elimination of muscle spasm that histamine was used in the affections of the skeletal system. It was also found that its powerful vasodilating effect can exert beneficial influences upon peri-, para and intra-articular lesions. It is felt that this is done only partly by the elimination of muscle spasm. There also appears to be a direct influence.

* From the Orthopedic Department, New York Polyclinic Medical School and Hospital.

*Conditions in Which Muscle Spasm Plays a Dominant Role and Those Which Were Subjected to Histamine Treatment.*

1. *Primary*—In diseases directly affecting the muscle: Acute and chronic rheumatoid affections of muscles, (also called fibrositis) i. e., acute and secondary torticollis.
2. *Secondary*—Due to underlying trauma or pathology of joints:
   a) Contractures following trauma
   b) Various forms of arthritis
   c) Postoperative stiffness of joints
   d) Contractures due to faulty body mechanics (rigid flat feet)
   e) Myositis or myofascitis due to faulty body mechanics.

In these conditions the medical profession has not taken full advantage of the possibilities of this drug. The reason for this may be due to either lack of experience in the proper application or the fact that the indications for this method have not been more clearly stated.

## Mechanism

Whether histamine is introduced into the body with the purpose that it should exert its beneficial effect, as it will be described below, or to develop a tolerance to histamine and produce antihistamine therapy is a matter of nomenclature. The fact is—we put it in the body.

It is not the purpose of this paper to enumerate recent and old theories of histamine action in the tissues. This would not be but another frank admission that the real action of histamine in the body is unknown—at least at present.

## General Concept of Histamine

Attention has been drawn recently to the action of antihistamine drugs and it has been implied that histamine is one of the substances responsible, or the main factor responsible, when the body's chemical mechanism is unbalanced as in anaphylactic shock, etc.

The author's experience indicates that there are very few drugs which have as dramatic and impressive an effect if administered precisely and to a carefully selected patient. As we know, no medication can replace sound medical judgment. In the same manner histamine cannot be effective if used indiscriminately. Another view which has been published ((Comroe) and which must be corrected), classifies histamine with hot fomentations as a therapeutic measure.

There is no doubt, that if applied in the form of iontophoresis, histamine exerts a local as well as distant vasodilation effect through a reflex mechanism (axon reflex) thus dilating arterioles, capillaries and venules of the deeper structures. The tremendous beneficial microcellular effect that can be exerted in this manner is easily appreciated.

*The Action of Histamine in the Local Sphere of Influence to Which We Have Directed It*

1. Local anesthetic effect: It was believed that histamine may have a temporary, transient anesthetic effect if applied locally. This, however, is definitely not the case.
2. All the benefits of prolonged vasodilation.
3. It is the author's theory that the prolonged vasodilation removes the acid metabolites formed at the site of the disease.
4. Tired painful muscles are definitely stimulated and refreshed. Therefore, it seems histamine aids in the $O_2$ saturation of tissues. However, more work must be done on this tissue-cellular mechanism.
5. *Histamine Hunger:* It has been noted by Deutsch that in certain cases histamine had such a dramatic, quick effect that it could not be explained in any other way but that these tissues were in extreme need of histamine. This was called *histamine hunger.* This author can confirm the existence of such a status by a number of cases illustrated below.

We know that histamine does not remain in the organs or secretions for any appreciable length of time. The author has no knowledge of a method for quantitative determination of histamine in the blood or any other body fluid. Therefore, it would seem that the prolonged application of histamine

CASES TREATED BY HISTAMINE IONTOPHORESIS
TABLE I

| DIAGNOSIS | CASES | Duration of Symptoms | Total No. Iontophoresis | RESULTS Immed | Exc | Fair | Failures | Recurrences | Follow-up (Average) |
|---|---|---|---|---|---|---|---|---|---|
| ACUTE AND SECONDARY TORTICOLLIS ("Stiff neck") | 27 | 1 to 3 days | 4 to 11* | 5 | 22 | - | - | None | 17 months |
| Calcific Tendinitis of Shoulder (all chronic) | 36 | 2 months to 3 years | 8 to 21* | - | 28 | 6 | 2 | 6 | 26 months |
| Periarthritis Humeroscapularis (not adhesive) | 29 | 6 months to 3 years | 14 to30*#x | 6 | 15 | 4 | 4 | 7 | 30 months |
| Epiphysitis of Thoracic Spine | 3 | 1 to 3 years | 8 to 16* | 3 | - | - | - | - | 12 months |
| Osteo-arthritis of KNEE | 48 | 1 to 9 years | 15 to 35*#x | 11 | 31 | 4 | 2 | 14 | 21 months |
| Osteoarthritis of Low Back | 15 | 6 months to 18 years | 20 to 40* | 5 | 7 | 1 | 2 | 2 | 19 months |
| Rigidly Fixed Subtalar Joints Due to :- | | | | | | | | | |
| (A) Rheumatoid Arthritis | 5 | 1-7 years | 15 to 35* | - | 5 | - | - | - | 21 months |
| (B) Mechanics (Adolescent) | 4 | 6 months to 2 yrs. | 10 to 15* | 4 | - | - | - | - | 27 months |
| (C) Osteo or mixed Arthritis | 7 | 9 months to 2 yrs. | 12 to 30* | - | 5 | 2 | - | 2 | 20 months |
| Chronic Low Back Sprain | 13 | 6 months to 3 yrs. | 15 to 30* | 2 | 7 | 2 | 2 | 4 | 25 months |
| Herniated Disc (chronic-surgery refused) | 6 | 8 months to 2 yrs. | 20 to 40* | - | 2 | 2 | 2 | 3 | 12 months |
| Post Operative Rigidity of Joints | 22 | Post Operative | 15 to 25* | - | 12 | 10 | - | - | 30 months |
| Osteo-arthritis of Cervical Spine | 11 | 9months to 5 yrs. | 10 to 18* | - | 7 | 4 | - | 1 | 24 months |

*Daily(one treatment per day) # Some of the patients had treatment every other day. X-Supplemented by Intravenous Histamine.

iontophoresis would be the ideal way to maintain it for the longest period in the region where its effect is desired. This can be supported by preliminary intravenous drop infusions.

What actually happens to the histamine which is introduced into the body is unknown at present. While histamine is an essential substance of the tissue cells it cannot be definitely shown, at least at present, that the histamine is absorbed by the cellular elements of tissues and stays there because we have only qualitative means of demonstrating its presence in the serum, urine or other excretions.

There is a strong possibility that if histamine is being formed in the body by conversion of *histidine into histamine* by the action of ascorbic acid, a more lasting histamine saturation will be achieved. How this mechanism will act upon the painful muscles and joints of a mixed group of patients is under this author's investigation.

### *Factors to be Considered Before Administering Histamine*

For reasons explained above, it is more desirable to maintain histamine concentration for prolonged periods, but in so doing we must consider:

1. *The patient's tolerance.* This can readily be seen by either the sign of marked flushes or by the patient's complaints of intractable headache which may set in 2 to 3 minutes after iontophoresis has been started. A mild form of headache is encountered in about 40 percent of the patients, which usually subsides in one hour. A more accurate indication is a drop in blood pressure. To avoid the latter, test the specific histamine tolerance of your patient by giving a 10 minute iontophoresis with 2 milliamperes noting the blood pressure before and after.

If the patient shows a marked sensitivity, inject 300 mgr. of ascorbic acid just before starting the iontophoresis. This is the solution to the problem in most cases.

2. Certain regions where the skin consists of thick horny layers, as on the palm, sole; and on the anterior surface of the forearm where the skin is of more delicate texture, require special consideration in determining the timing of the treatment. If the area is a sensitive one, the iontophoresis is administered over a shorter period of time with a lower milliamperage or conversely, if the area is less sensitive, use a higher milliamperage and a longer period of time.

3. The most important point to emphasize is that one must not reduce the use of histamine to a routine procedure of the technician. Impatience, lack of experience and a superficial knowledge of the subject can discredit what would be a very successful measure if given with some discrimination. A set rule *must not be established* as in other forms of physiotherapy, *i. e.*, a limited period of time, a small field of application and a definite measurement of electricity. The individual must be tested in each case and a schedule worked out for him.

To be most effective it is the author's experience that histamine iontophoresis should be applied over a much larger area than the field described as the site of pain. If the region is on the back, then the area covered should be twice the size that the patient indicates; if it is a joint, then the entire joint and the soft tissues immediately surrounding it as well.

The time element in iontophoresis is very important. As soon as the patient's specific tolerance is determined, the time of administration can be increased rapidly. If the patient's tolerance is low, it is built up by increasing the time gradually. But if the patient lacks tolerance a few attempts are made to create a tolerance by preliminary administration of large amounts of ascorbic acid (between 200 and 1,000 mgr.). Not one patient was encountered in 18 years who could not be subjected to histamine iontophoresis.

5. *Frequency:* Histamine iontophoresis can be repeated two or three times a day, but it usually is not necessary. It was found that by this frequency of application the effect of treatment can be greatly increased. Because of this and the inconvenience of having to make too many office calls, provisions were made so that histamine treatment could be administered in the patient's home and could be given by the patient himself.

Since histamine has a special field in the relief and release of severe muscle spasm, developed on a traumatic basis or mechanical basis, the author found it beneficial to give histamine iontophoresis for prolonged periods even for hours at one time. Controlled doses of histamine can be introduced by iontophoresis during a prolonged period of time and may even be given while the patient carries on his daily activities.

It has been found that iontophoresis is the most effective means of successful histamine treatment because apparently this is the method—so far—by which histamine can be kept in a steady concentration over an area where it is required and where it can exert its beneficial effect.

This seems to apply even to the possible method of having histamine synthetised or formed actively in the body. It is doubtful that in the latter instance the histamine would reach the involved area of the body in the concentration that is required or would be equivalent to the amount introduced by iontophoresis over a large surface area.

6. It has been most satisfactory to regulate the galvanic current to the smallest quantity at which the patient has the sensation of prickling and allow it to remain on for a prolonged period. Its effect is directly proportional to the amount entering the body and it seems that the relief experienced increases with the size of the area covered by the application.

7. The iontophoresis may be supplemented by the infusions of histamine and so "further the attack". This is used as a preliminary measure, given with 250 cc. of saline 1.00 mgr. histamine phosphate and

followed by the iontophoresis. This can be readily done as an office procedure. If the intravenous technique is used alone, it is as follows: The patient receives 200 mgr. ascorbic acid, intramuscularly. This is followed immediately with 1 mgr. histamine phosphate (equivalent to 0.36 mgr. histamine) in 250 cc. of normal saline. The infusion is given at the rate of 45 to 50 drops a minute. Next time the histamine dose is doubled—never exceeding 0.72 mgr. histamine.

## Discussion

*Cases Classified as to the Underlying Pathology*

*Acute and Secondary Torticollis:* This group includes patients with recent, definite muscular pain about the neck without underlying trauma or bony pathology. Cases of fibrositis are included. It should be mentioned that some old injuries of the cervical spine, namely, "whiplash" injuries or ligamentous derangements, if not very serious and if they are of long duration (more than one year) respond well to histamine iontophoresis. The necessity of correct differential diagnosis cannot be overemphasized.

*Osteoarthritis of the Cervical Spine:* There is a high percentage of recovery particularly in cases with pain and rigidity of the posterior and posterolateral muscle group in the neck. Cases with radiation below the elbow or with root pain are less accessible or nonaccessible respectively.

*Calcific Tendinitis of the Shoulder:* All chronic cases of calcification in the tendinous cuff of the shoulder, including so-called calcific bursitis. No attempt was made to treat any of the acute cases with this method.

*Humeroscapular Periarthritis:* Peri- and paraarticular pain about the shoulder due to trauma or wearing processes without calcification and not presenting the form of adhesive capulitis or frozen shoulder were treated in this group.

It should be emphatically stressed that it is not to be expected that the latter condition would respond to histamine therapy. If the adhesions are broken up by manipulation or open procedure histamine iontophoresis was found to be a definitely more effective method of physical therapy than other forms. This is also applied to any postoperative treatment of joints.

In the grouping it should be pointed out that cases of thickening of the subacromial bursa with the signs of impingement as well as recent or old tears of the musculotendinous cuff are treated by surgical repair by the author.

*Epiphysitis of the Thoracic Spine:* This disease is usually seen in the adolescent age group of 15 to 21. It has been through personal long experience that the pain projected over the spinous processes of the thoracic spine and into the erector spinae muscles, can be eliminated by this method if the entire back is included in the treatment. There were only three such cases listed in this series and they all responded well.

*Osteoarthritis of the Knee:* Exact diagnosis is of extreme importance in these cases. Low-grade infection in a knee joint can be easily mistaken for osteoarthritis and less frequently for rheumatoid arthritis. As stressed above, sound judgment cannot be neglected when we establish the method of treatment.

There are also cases of osteoarthritis in which synovitis is the dominating feature and osteoarthritis is present as an underlying factor. It was definitely established that these cases do not respond to histamine therapy. It should be mentioned that synovitis with effusion is found much more frequently than is generally believed. One must always be on the watch for it.

The absence of fluctuation of the patella is by no means the sign for one to depend upon in establishing the correct diagnosis. To avoid misunderstandings it should be stressed repeatedly that removal of the synovial fluid and in cases of recurrence, synovectomy is the treatment of choice in the author's opinion. Histamine iontophoresis is contraindicated even when the fluid has been removed.

In this series only typical cases of hypertrophic arthritis were included without ever presenting joint effusion. The ages ranged from 31 to 72 years. Intraarticular injections of histamine were used in 12 cases at the OPD, Polyclinic Hospital. This study was made to determine if the treatments could be shortened and to avoid having the patients report back for a prolonged series. 1 mgr. histamine phosphate (0.36 mgr. histamine) was given in 20 cc. normal saline. Blood pressure was taken before and after the injection. 10 cc. were slowly injected by a parapatellar approach, then with the needle in place, we paused for about 10 to 15 minutes before completing the injection. The injections were given twice a week, the total number varying from two to six, depending upon the individual. No disturbing effects were encountered. The follow-up is rather short but the results to date have been very encouraging.

*Osteoarthritis of the Lumbar and Sacral Spine:* The title of this classification is used much too freely, as a general rule, but in this instance we confined ourselves to cases that were true representations of this entity. There was a definite response and comparatively a far greater result than from short wave. In many cases a combination of both methods, histamine and short wave was more effective and provided a more lasting effect than when one of the treatments was given alone. The best means was to follow one directly after the other on the same day.

*Rigid Fixation of the Feet:* This is a very important chapter in orthopedic surgery, and there are many methods in use for this condition. The cause of the fixation must be determined first. We have had very favorable responses unless the condition was due to very extensive traumatic arthritis or malunited fractures, and in these cases surgery is

definitely indicated. However, in the most hopeless cases in which surgery has been refused and braces do not alleviate the symptoms, histamine iontophoresis has been beneficial.

It can be stated with reasonable certainty that the adolescent rigid flat foot will respond in every instance to this treatment. As a routine the treatment should not only be applied to the entire circumference of the hind and forefoot but also to the muscle bellies of the peroneal group. If this is done about three to six times the mobilized foot will be ready for a suitable surgical appliance which will maintain it in full correction.

*Chronic Low Back Sprain:* This represents in many occasions a difficult problem to deal with particularly if, *after a prolonged immobilization,* muscle re-education is required. It was found that histamine iontophoresis, applied in the prescribed manner, had an excellent influence in this phase of the treatment and definitely shortened the time of rehabilitation. This was confirmed by a study of controlled cases. Since a great number of compensation cases responded very well to this form of therapy it should convince even those readers who might be a bit skeptical over the enthusiasm of the author. Naturally acute cases are not touched with this treatment.

CASES TREATED BY INTRAVENOUS DROP INFUSION

Table II

| DIAGNOSIS | Duration of Disease | Cases | In Pts. | OPD & Office Pts. | Number of Infusions | RESPONSE Excellent Basting | Good Temporary | Failures | Follow-up (Average) | Recurrences |
|---|---|---|---|---|---|---|---|---|---|---|
| Rheumatoid Polyarthritis | 6months to 5 yrs | 18 | 11 | 7 | As a routine three treatments were given per week for three weeks. | 3 | 9 | 6 | 17 months | 6 patients 4-9 months after treatment |
| Hypertrophic Polyarthritis | 1 to 11 yrs | 30 | 9 | 21 | | 18 | 7 | 5 | 21 months | 11 patients after 10-16 months |
| Mixed Polyarthritis | 2 to 5 yrs. | 8 | 2 | 6 | | 4 | 1 | 3 | 20 months | 2 patients after one year |
| Marie Strumple | 9yrs | 2 | 2 | | | | 1 | 1 | 11 months | 1 patient after 7 months |
| Periarthritis Shoulder with other general manifest.of Osteo-arthritis | 6 months to2 yrs. | 9 | 2 | 7 | | 5 | 2 | 2 | 21 months | 2 patients |
| Osteo-arthritis Knee | 1 month to 3 yrs. | 21 | 3 | 18 | | 10 | 10 | 1 | 23 months | 2 patients |

*Herniated Disc:* The most successful treatment for a herniated intervertebral disc, in my experience has been the surgical removal followed in some selected cases by spine fusion. If operation is contraindicated or refused, then bedrest, traction and immobilization is the treatment of choice. In other words, histamine iontophoresis was not given to this series of cases to treat the underlying condition. It was given to selected cases in which surgery could not be performed and following the acute stage there was residual constant back ache without radiation or when there was recurrence of pain in the low back.

In carefully chosen cases this treatment is superior to other forms of physiotherapy. In some cases the series of treatments had to be repeated eight to twelve months later but the results were most gratifying.

*Rigidity of Joints Following Surgical Procedures:* While these cases respond to any form of physical therapy the marked vasodilation exerted by histamine iontophoresis reestablishes full motion and eliminates contractures of this type much more rapidly. Its great advantage is also that it lessens pain to a much greater degree and is more lasting than other forms of physiotherapy. The treatment is followed by massage and exercise.

*Intravenous Drop Infusion:* It is the author's experience that cases of hypertrophic polyarthritis, hypertrophic monoarthritis and the mixed polyarthritis cases responded to this method rather than the chronic rheumatoid arthritic patient.

However, in the rehabilitation program of the rheumatoid patient it is worthwhile to include a brief trial of this treatment. While it can be regarded as a possible failure from the point of "cure", still there were a number of cases; such as general achiness, discomfort, heaviness of all extremities and a feeling of general muscle rigidity.

## Summary

It is believed that the discussion of the cases in groups should emphasize the fact that only selected cases will respond to the treatment. We know that even a fair knowledge of bone and joint pathology, is not sufficient to avoid mistakes, in differential diagnosis, but this should inspire us to study these cases more thoroughly. A clear cut indication is established, when it is not possible to perform surgery and other methods, such as gold, are not tolerated.

It should be understood that rheumatoid pannus or rheumatoid synovitis must be treated by surgery before irreversible painful bony changes develop or bony changes which are not painful but interfere with the normal body mechanics appear.

There is a special group which is very accessible to histamine treatment, the accidental, occasional muscle or body aching that is idiopathic for the individual of good health and strikes everyone without exception during the course of life.

In this age when there is so much skepticism and so many authorities report themselves helpless in the treatment of arthritis, not believing in anything but aspirin and heat, it is encouraging to know that there is another weapon at our disposal, not to conquer the disease, not to cure arthritis but to render the arthritic, pain and symptom free for a more or less prolonged period.

We still do not know enough about pain mechanism but it appears that the elimination of most painful muscle spasm for a long period may have a favorable influence upon underlying pathology. For this reason a number of affections in this group can be reversed and arrested in their progress.

It would be unreasonable to discuss this method from the viewpoint of "cure". Nevertheless, elimination of pain is a definite factor which can lead to cure in the groups discussed in this paper. Another factor is that histamine iontophoresis proved to be a harmless procedure.

If we can consider that this method rendered a number of patients symptom free without damage to their health we can begin to appreciate the importance of this form of treatment.


## Conclusions

1. A review of the literature, and the author's experience in two large hospitals seemed to indicate that histamine iontophoresis is not as widely used by the profession as its benefits, in selected cases, seems to justify.

2. In 314 well chosen orthopedic cases, a critical review of histamine treatment has been offered.

3. A preliminary report has been made on the use of histamine in the form of drop infusion in the treatment of rheumatoid and osteoarthritis.

4. A preliminary report was made on the use of intraarticular histamine treatment in cases of osteoarthritis of the knee.

5. From these experiences, the author concludes that iontophoresis is still the most effective method and appears to be superior to intravenous administration. However, iontophoresis combined with intravenous or intraarticular application in a limited number of cases seems to have a very promising effect.

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140 East 54 Street

# DDT TOXICITY*

CARLTON DEEDERER, M. D.
Miami, Fla.

DDT is a death-dealing terror acting more like bullets than such soluble poisons as its distant cousin carbolic acid (phenol), or tetraethyl lead. It enters the circulation of the blood in fine globules of kerosene or its equivalent, and a portion remains while the rest of it leaves the body by way of all of the channels of excretion including the tears and the perspiration.

If a marauding giant were to stalk about the metropolitan district and the militia were called out, he might respond to its bullets by asking, "What are these mites biting me?" But though he might believe they were mites his vital organs would be damaged and in time he would be incapacitated or die prematurely.

* Dichlor diphenyl trichlor ethane

### General Statements

Trying to appraise the injury from exposure to such a poison by use of the old fashioned stethoscope, blood pressure instruments, or crude scales and by the ordinary tests of the urine is the height of folly, yet it is upon such tests as these that the "authorities" base judgment. They force the citizens to breathe the lethal vapor on entering the country by plane, in overhead spraying of the populace, their homes, and gardens, condoning its use in grocery stores, and on interstate foods, and rendering buildings and planes soaked with inflammable oil.

### Sources of Poisoning

DDT enters the body by way of food, breathing or by contact. In isolated test cases symptoms of DDT poisoning have followed taking these foods: peeled fruits of apples, lemons, oranges, grapefruit, bananas, watermelon, plums, and eating strawberries, raisins, dates, and figs.

Signs of DDT poisoning have ensued after eating: corn, cabbage, onions, canned navy beans (one make only), graham crackers, oatmeal, wheat cereal, canned sweet potatoes, rye crackers, wheat germ, white and brown rice, ice cream, raw butters of peanut, cashew, almond, grape drink, grape juice, pineapple juice, chicken livers, and so many other foods over and over again. Therefore it is easier to name foods which have not been found poisoned, such as: one variety of canned navy beans without pork, kidney beans, lima beans, peas, lettuce, celery, carrots, beets, whole wheat from a certain Texas source, kohlrabi and loquat fruit.

Here are two interesting excerpts from the literature:

### DDT Spray Residues

"Only peeling was effective in removing the DDT present on the skins of apples. Polishing, brushing, or washing with detergents, hydrochloric acid, or weak solutions of acetone, ethyl alcohol, or an emulsion of benzene, were not effective in reducing the DDT concentration below the tolerance limit. G. D. Manalo, R. Hutson, E. J. Miller, and E. J. Benne, Food Packer 27, No. 13, 64, 66, 68." (1)

### DDT no Cure-All

For a while, DDT seemed to be the answer to every parasitologist's prayer: Just kill all the mosquitoes and presto!—stamp out malaria. But in Puerto Rico, where that was tried, the DDT fell on the sugar cane, the cane tops were fed to cattle, the DDT was concentrated in the cream and eventually ended up in the butter, and the butter was dangerous and unfit for consumption. (2)

*Example of Possible Degree of Poisoning Animal Tissues:* When DDT was sprayed over thirty acres of young forest, 80 percent of one type of birds were killed outright to say nothing of those of the remaining 20 percent made seriously ill. (3)

### Mosquito Enemy Killed

Dying of agonizing suffocation, a bat was found here in a local city street immediately following overhead county-wide spraying.

### Symptoms of DDT Poisoning

About an hour after taking DDT in food that has contacted the spray indirectly, there may be sensed a slight metallic taste as in licking polished steel. In two hours from the eating there may be a drowsiness requiring or at least demanding sleep, and a beginning dryness of the mouth due to the absence of salivary and mucous secretion, unrelieved by drinking of water. In a marked case this may cause a condition the reverse of hydrophobia which might be called dessicophobia—fear of dryness.

If the offending food is eaten on retiring there may be distressing dreams or severe nightmares during the second to fourth hours awakening with extreme thirst in which a quart of water fails to relieve and simply passes out in pale urine of a hue more on the lemon side of amber. Burning of the eyes increases for two more hours, and a gritty feeling develops. This is due to crystalline deposits of DDT. Mental concentration may be disturbed and an increment of night blindness ensue. Going into the night one may see an iridescent radiating halo about distant lights more than was formerly present.

There may be slightly sensed a cadaveric taste and a similar odor from the urine like that of canned mushrooms. After six hours from the eating it may be possible to raise a little phlegm (sputum). This should be saved for examination. Let it be said at this point that due to the almost universal presence of DDT, glassware used must be treated with strong lye, or its equivalent, and even then thoroughly washed and not handled on the working surfaces nor left standing incompletely covered—before making tests.

In the mouth one may observe a sandpapery roughness with fine corrugations as from aspirin poisoning, especially on the side used preferably in chewing.

On entering a room previously sprayed there may be signs of any degree of respiratory disturbance from slightly appearing rawness of the throat to stark or fatal suffocation. Sometimes there is a distressing nervousness and inability to attain restful sleep and with irritation in the eyes.

It might be mentioned in trying to evade symptoms, that once a room, berth, or plane has been sprayed with DDT it can never be removed except by use of such means as strong alkali or burning. Nature has taken care of this in the many incidences of the burning of planes in flight!

During the breathing of the residues of accumulated sprayings the mentality is not as alert, a most unfortunate condition in which aviators honorably trusted with human life may be found. Reasons for this will be given.

### Case Reports

H. H. age 65, female. She entered the room following spraying—intense symptoms of suffocation soon developed. She recovered gradually from the results of the attack but after some months was still under par and readily set back on taking a minimal amount of food that had been exposed to DDT.

M. H. age 34, female. She was extremely nervous and had distressing cramps in her abdomen

after she drank roof cistern water in Key West, Fla. Overhead spraying is frequent here and a percentage of the population drinks cistern water. Later she and her mother were poisoned likewise by ice cream and had to return home. They had written of poisoning from water cress. A sample sent for analysis showed signs similar to known specimen of DDT.

E. G. age 45, female. This woman developed a raw sore throat a few hours after city wide spraying of Miami. She reported that many patrons of her grocery store had observed similar symptoms.

In a case where a five gallon bottle of roof water had been collected a few days after the spraying, poisoning occurred night after night from that water till there was almost a state of hydrophobia. Drinking city water was also followed by other symptoms. Innumerable poisonings from various foods thereafter caused various symptoms representing some of the cardinal signs of chronic poisoning.

### Microscopy and Clinical Pathology in DDT Poisoning

Three starch solutions were made, one containing DDT one part in 40,000. It became easy to identify crystals of the poison by a simple discovery that DDT always settles to the surface instead of the bottom. Furthermore for some reason there forms on the surface a fragile gelatinous flexible sheet. If not folded the material resembles thin ice at one's feet. A similar scum surface or film has occurred many times on the first urine—following a night of symptoms of DDT poisoning. As yet there is nothing to report on its composition.

In addition to the film formation on standing the known solution containing the DDT showed crystals not found in the simple starch solutions.

Most frequently appearing is the fire hydrant crystal with or without the proverbial pup. Second comes the oak log cut for the fireplace. Then follows the corn crib possibly breaking out with an explosion or searchlight from one corner retractible on upward focus. Near that may be the ready-to-tumble-down barn 120° roof. On some occasions there is a box with shuddering shape bursting forth with the rays from the pate of an unknown genius. The knight's romance-concealing armor is a frequent contour and hexagonal crystals are also very characteristic. There is the common night-blooming cactus and various bodily garments but the most attractive forms are the multiple appearances of women's gay ninety shoes and renaissance boots with diamond studded heels.

Oily droplets usually about the size of a starch granule are seen and they throw a Newtonian halo of mirage-like waves beyond the shore of the congealing droplet. Quite similar iridescence is seen with all of the characteristic crystals. The hydrants and logs especially with direct sun illumination on the crystal show a configuration of mosaic opus vermiculatum. Highly refractile bodies are seen, which show brilliant prismatic color variations sometimes oscillating on focus between pink and green and sometimes between violet and yellow-green.

Some crystals lose their hexagonal shape by virtue of superimposition in precipitation, but at least usually one 120° angle is present. A characteristic of the dancing halo on focussing is that on the down focus it may traverse nearly the entire low power field. Where the light is from the right the halo shoots to the left on downward focus. Amorphous crimson crystals are rare.

Many valuable weeks were lost before it was discovered that the oil vehicle in which the poison came had a peculiar volatile property in that it would appear in droplets all over the microscopic slide on standing. If the oil is in the same room it will deposit on supposedly clean slides. This may be a warning against its use in a telescope housing.

Many specimens of urine have been examined but one interesting was from poisoning following contaminated fish oil then followed by an orange grown on DDT soil. One urine analysis showed two renaissance boots—one gay ninety shoe, sketched originally oversized. These crystals were about the diameter of five starch cells. There were brilliant iridescent cut diamonds, hydrant crystals and one broken key shapes.

In a poisoning occurring about 2 a. m., a hasty taking of a specimen of blood showed what appeared to be a crystal of customary appearance but it was surrounded by about 100 red blood cells which had been killed by haemolytic degeneration.

In sputum and eye excretion the oil content is relatively high. Especially in sputum for on its evaporation crystals precipitate. Colors surpassing indescribable sunsets have been seen in sputum through side lighting that surpass the imagination. These may or may not be essentially associated with DDT.

Apparently dying from shrivelling a wasp-like fly showed body contents containing highly refractile brilliant oily material. The fly had been exposed only to the excretory products mentioned. An ant, killed in the same manner showed similar material throughout limb and body.

### Diagnosis of DDT Poisoning

Suffocation is the leading characteristic sign of severe poisoning whether by mouth or inhalation. In the less acute case, dryness of the mouth is the rule. It begins to be noticeable two hours after taking the poison. This soon becomes associated with dryness of the eyes and burning and a feeling as though there was grit in the eyes.

A test should be made of the first urine which is collected in an eight ounce bottle saving especially the final half ounce to fill the bottle to the top. After this stands a variable length of time depending on severity, and from an hour possibly for five days, there is often seen a surface film with a pink-green sheen on slanting inspection. Thirty degrees frequently was the best angle. Spectrographic analysis might be available.

To get excretory material from an eye a clean sterile swab is used pulling off most of the cotton without touching the remainder. This is twisted in the angle of the eye and wiped transversely in one stroke on a microscopic slide.

Suspected foods should be examined likewise. They can be viewed directly or by a separatory solution as described for urine. It should be remembered that the specimen must be protected from dust and vapor. Specimens from any part of the body are well suited for the purpose but that of the eyes has the advantage of persistence for six or more hours after taking the poisoned food.

In one case diagnosis was supported by examining only the crumbs from an empty cracker box.

### Dire Effects Following Spraying of DDT by Plane

When the local city here was sprayed by plane, July 3, 1946, a city grove was included, needless to say against the will of the owner. A preliminary spraying had also been done in September 1945. In this grove and its accompanying home garden there was an almost perfect balance in nature of supply and demand of insects and their enemies such that trees and plants thrived. There was a silver-bodied spider brought from a farther south wild territory and reminding one of phantom cave dwellers because the web was polyhedral geometrically speaking—that is it was built in many planes and instead of one spider it nested a dozen or so.

Once when a certain orange tree became heavily infested with a white fly, one of these spiders was transferred to this tree and in 24 hours there were no white flies to be seen. Chameleons and birds happily munched any invading marauding insects. But lo, the rains of DDT descended and the floods of poison came and most of the spiders, birds and chameleons were wiped out.

Inside of a week papaya plants showed complete crackily searing. White flies hatched out. They became rampant and took over and destroyed the plants or trees as they are called. Later papayas failing to mature were opened and were found to contain black mummified magots, indicating that sufficient poison had penetrated the fruit to kill them because no other insecticides had ever been used.

For at least a year and a half this fruit was poisonous to humans. That means that newly grown specimens sucked up the poison from the soil where it had been deposited, or absorbed it from leaves or trunk.

Squashes were killed outright. Outside cabbage leaves were cauterized to a crisp and as the head grew a sharp line of demarcation was evident.

Other fruits of the grove became poisoned and poisonous as shown by innumerable attempts to eat them. Fruits that caused poisoning as late as a year and a half after the spraying, were oranges, grapefruit, lemons, bananas, avocados, egg fruit. The one watermelon grown gave severe symptoms. Watermelons bought gave symptoms but these may have been augmented by sodium nitrate possibly used on the patch.

Monstera deliciosa fruit could not be eaten because this was followed by burning of the throat and development of a harsh rawness.

Formation of carotene was arrested and the citrus fruit failed to color especially the oranges which remained mostly green over the surface. Bananas likewise failed to color and remained a brownish green. Several hundred young mangoes gradually died over the year and a half but avocados were not stunted from the oil and DDT. There were many interesting features of the poisoning of the fruit that might be of interest to growers.

Eight months after the enforced spraying by the Navy at the instigation or consent of local "authorities" the United States Food and Drug Department finally consented to examine one orange and corroborated the finding of the presence of DDT though in an amount they class as, "Not adulterated according to the meaning of the law," even though similar oranges were poisonous.

### Discussion

First of all attention must be called to the fact that DDT is an almost universal cell poison for insects, higher animals and even plants. Since its attacks are viciously sporadically localized, it is most difficult to place a finger on the damaged tissues. Here is where "authorities" have been continually misled.

It is a well known fact that the most vulnerable part of the entire nervous system is that most recently acquired. It leaves us to ponder whether or not man is most susceptible to DDT. It has been seen that even men of laboring mentality can eat amounts of the poison that would severely disturb one with the capacity for highest thinking.

Difficulties and folly of creating antidotes is readily realized from the fact that DDT is particular to travel in oil. Castor oil was tried with known poisoned foods without benefit. Any oil solvent such as acetone would increase its dispersion. Citrus fruit and green onions gave partial symptomatic relief.

Since the clinical tests suggest that the carrier oil is absorbed, at once it becomes a human enemy as a thief of vitamin A, essential for life. Symptoms of B deficiency developed in the poisonings.

Two important signs of vitamin A deficiency have resulted from the poisonings namely rapid increase of graying of the hair and an increased rate of needed changes in eyeglasses for far sight (presbyopia).

Any chemical destroying vitamin A will of necessity sooner or later depending on where the poison strikes, damage glands of internal secretion.

### Summary

DDT strikes like minute bullets not like soluble poisons. Authorities have misjudged its toxicity because of old fashioned methods of appraisal. It is common in the foods we eat daily regardless of the greatest efforts for its elimination.

DDT causes distressing dehydration and respiratory symptoms leading to suffocation. Spraying berths and kitchens is dangerous. Brief case reports illustrate variety of symptoms.

Microscopy furnishes definite enumerated clues with technique specialties in diagnosis.

Plants are poisoned by DDT and become poisonous at dates remote from the spraying.

### Conclusions on DDT Poisoning

Weighing all of the facts, and realizing the well known truth that there are more effective harmless insecticides than DDT, there is only one conclusion to be drawn. DDT should not be used for any purpose as an insecticide where it is possible for it to contact humans or upset a favorable balance in nature.

Those who are primarily interested in DDT commercially, are themselves subject to its daily danger and must sooner or later make a clean breast admitting their misinformation because accumulation of the oil and DDT in soil, woodwork and airplanes will eventually create further and greater disasters.

If a foreign country wanted to decimate the vitality of the populace of this country, and this is not beyond a possibility, it could choose the initiation of this poison.

Small partial steps in the right direction will be taken but we cannot make any progress with one foot up in the air. First we must do everything possible to spread enlightenment then to get mass sentiment behind action.

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139 South East Third Street

# CLINICAL STUDY OF METHIONINE IN HEPATIC IMPAIRMENT

A. DEBRUILLE, FREDERIC DAMRAU, M. D. and
ALEX WEINERMAN, M. S.
New York City

Animal experimentation has clearly demonstrated the importance of methionine in protein nutrition and the role played by this indispensable sulfur-containing amino acid in protecting the liver against the effects of hepatotoxic agents and of nutritional deficiency.

The clinical use of methionine in conditions involving impairment of liver function is, however, still in an experimental stage and its complete evaluation must await the accumulation of a large amount of data.

The present series was small, but the results obtained in hepatic cirrhosis, fatty infiltration of the liver and acute infectious hepatitis were so promising as to suggest that methionine will prove to be a valuable weapon against these conditions.

### Experimental Background

In 1940 it was demonstrated by Miller, Ross and Whipple (1) that methionine protected protein-depleted dogs against the liver necrosis of chloroform poisoning. In the first experiments of these authors methionine was administered by mouth or intravenously from five to twenty-four hours prior to chloroform anesthesia, with complete protection of the liver.

A later experiment, (2) showed that methionine gave a substantial degree of protection when given intravenously from three to four hours *after* the beginning of chloroform anesthesia. In view of these results, Miller and his associates suggested that methionine might possess therapeutic value in any type of liver injury.

Experimenting with rats, György and Goldblatt (3, 4) showed that a diet markedly deficient in protein resulted in hepatic necrosis or cirrhosis, or both; and that both types of injury could be prevented by administering either methionine alone or choline plus cystine. No other amino acids were effective.

Similar findings have been reported by many other workers. It must be remembered, however, that experimental hepatic impairments in animals are not identical with disorders encountered clinically in human beings.

### Published Clinical Results

*Cirrhosis of the Liver:* In 1942, Fagin and Zinn (5) reported trials of amino acids in the treatment of five patients with cirrhosis of the liver. Four of the five showed marked improvement both in subjective symptoms and objective signs of hepatic dysfunction. In a subsequent paper, Fagin *et al.* (6) expressed the opinion that the results obtained in these cases were attributable to the lipotropic activity of the methionine contained in the amino acid mixture employed.

Distinct improvement was observed by Eddy (7) in two early cases of cirrhosis treated with methionine and Beams (8) has also secured encouraging results.

Recently, Morrison (9) published an account of 20 cases of cirrhosis treated with combined therapy consisting of 2 Gm. of methionine and 2 Gm. of choline chloride daily, the parenteral administration of an aqueous whole liver extract with vitamin B complex supplement, and dietetic management. The results were compared with those in a series of 23 control patients.

In both groups patients were classified with reference to the presence or absence of ascites.

After two years, no deaths had occurred in the treated group without ascites, as compared with three deaths among the 11 patients of the control series. Of the nine treated patients with ascites, only one had died at the end of two years, as compared with nine of the 12 controls.

Morrison considers it important to administer synthetic methionine, in addition to a high protein

diet. It has been demonstrated that the metabolism of amino acids and the process of deaminization take place mainly in the liver. In cirrhosis of the liver, these functions are materially impaired; hence the administration of pure methionine in a readily utilizable form seems indicated, even in the presence of an ample dietary intake of protein.

*Acute Infectious Hepatitis (Catarrhal Jaundice):* Beattie and Marshall (10) have stated that preliminary results with methionine in 450 cases of acute infectious hepatitis and post-arsphenamine jaundice (including controls) appeared to show that the clinical course of both conditions was influenced beneficially by treatment with methionine and the period of hospitalization materially shortened.

According to these authors, "in gravely ill patients, the results obtained by methionine treatment have been so striking as to leave no doubt as to the efficiency of the treatment." Details of these studies have not yet been published.

Striking improvement was observed by Eddy (11) within forty-eight hours in two cases of epidemic hepatitis treated with methionine.

A case of subacute hepatic necrosis with massive edema and ascites, following a severe attack of infectious hepatitis, was treated with methionine by Ferriman and his associates. (12) Profuse diuresis, with rapid and dramatic disappearance of edema and ascites, occurred. Although additional therapeutic measures were employed, methionine administration appears to have been the primary factor in this patient's recovery.

Cohen, (13) in discussing infectious hepatitis, states that he has seen several cases of subacute necrosis of the liver in which methionine undoubtedly had a beneficial effect.

On the other hand, Hoagland and Shank, (14) who used methionine in 16 cases of acute infectious hepatitis, expressed the opinion that the course of the disease was not appreciably altered by the medication and similarly negative results have been reported by a group of British investigators. (15)

In acute hepatitis due to toxic agents there is much evidence that methionine is of great value; but clinical experiments involving this condition will not be discussed here inasmuch as the present series includes no cases of this type.

## Plan of the Present Study

A clinical investigation of the response to methionine of 10 patients with impaired hepatic function was carried out at a large general hospital. Five of these patients were suffering from cirrhosis of the liver, one from fatty infiltration of the liver, and four from acute infectious hepatitis (catarrhal jaundice).

The medication employed was *metione*, a racemic synthetic methionine combined with flavoring ingredients, which was perfected for clinical use by Debruille. Metione produces all the pharmacological and physiological actions of naturally occurring methionine. Owing to its pure form, it can be readily utilized by the body.

Experimentation with various dosages led to the adoption of 2 Gm. three times daily as the standard. Methionine in this dosage was found to be pharmacologically effective and caused no untoward reactions.

In evaluating the results of therapy, in addition to careful appraisal of symptomatic response, particular attention was paid to the following objective tests: determination of the icterus index, the cephalin flocculation test, the total serum protein, and the albumin-globulin ratio.

The icterus index provides a convenient means of following the progress of a case in which jaundice is manifest. The normal index is from 3 to 6. The zone of latent jaundice ranges from 7 to 15, while in manifest jaundice the icterus index is above 15.

The cephalin flocculation test is based on the fact that in the absence of liver damage a colloidal suspension of cephalin and cholesterol in a patient's serum gives no flocculation in from twenty-four to forty-eight hours. Little significance attaches to a result of plus 1, in the opinion of most observers; but definite impairment of liver function is indicated by readings of plus 2, plus 3 and plus 4.

The total serum protein in normal subjects ranges from 6 to 8 mg. per 100 cc.; the albumin-globulin ratio is approximately 2:1. As a rule, the albumin range is from 4 to 6 mg. per 100 cc. of serum and the globulin range is from 2 to 2.5 mg. The mechanism of change of ratio in liver disease is not well understood, but it is known empirically that the ratio of albumin to globulin becomes lower and lower as the dysfunction progresses.

## Results in Cirrhosis of the Liver

All of the five patients included in this group showed characteristic signs and symptoms of hepatic cirrhosis. Two of the patients were female and three were male. Their ages ranged from 35 to 56 years.

Of these five patients, three showed prompt and definite response to treatment with methionine, as evidenced by relief of symptoms and reduction of the icterus index. One patient failed to improve and in the one remaining case the results were inconclusive at the time the data presented here were compiled.

The patient who failed entirely to respond was gravely ill on admission to the hospital. The diagnosis was cirrhosis of the liver with hemorrhage into the gastro-intestinal tract, probably from a ruptured esophageal varix, and shock.

The following cases are representative of those in which improvement occurred:

*Case 1:* The patient was a sailor, age 38, and he complained of generalized weakness, anorexia, vomiting and attacks of dizziness. His physical examination revealed jaundiced sclera and eczematoid patches over the upper extremities, chest and abdomen. The liver was palpable four finger-breadths below the costal margin in the mid-clavicular line, tender, firm and smooth, with a sharp hard edge. Laboratory findings included an icterus index of 18. The serum albumin was 2.9, globulin 2.9, total protein 5.8. The albumin-globulin ratio was thus 1:1.

Under methionine therapy the patient showed prompt and progressive improvement. At the end of twenty-one days all subjective symptoms were markedly alleviated and the icterus index had returned to normal (3). At this time the serum albumin was 4.0, globulin 2.5, total protein 6.5. Thus the albumin-globulin ratio had increased to 1.6:1 and the total serum protein was within the normal range.

*Case 2:* The patient was a housewife, age 35, who was suffering from chest pains, generalized weakness and lethargy. Physical examination revealed small spider angiomata over the upper chest. Skin and sclera were slightly icteric. The liver was palpable four finger-breadths below the costal margin in the mid-clavicular line and the spleen was palpable. The icterus index was 19. At the end of only 11 days of methionine administration the icterus index was reduced to eight and there was distinct improvement in all symptoms.

### Results in Fatty Infiltration of the Liver

The series included only one case with this diagnosis, but the rapid and objectively demonstrable improvement under treatment appeared to indicate the desirability of further clinical trial of methionine in cases of this type.

*Case 3:* The patient was a housewife age 40, who was suffering from anorexia, nausea, vomiting, nervousness and generalized weakness. The liver was palpable 7 cm. below the right costal margin in the mid-clavicular line. It was smooth, firm and tender. Laboratory findings included the following: icterus index 30, cephalin flocculation 2 plus, albumin 3.2, globulin 2.0, total protein 5.2.

Methionine therapy was instituted at once. One week after admission the cephalin flocculation test had become negative and the icterus index had fallen to 13. The patient also showed improvement in all symptoms, which proceeded uninterruptedly. At the end of eighteen days the cephalin flocculation continued negative, the icterus index was 8 and the total protein had increased to 6.9. The serum albumin at this time was 3.8, the globulin 3.1.

### Results in Acute Infectious Hepatitis (Catarrhal Jaundice)

The high incidence of this disorder in the armed forces during the recent war focused much attention upon it. While a fatal outcome is infrequent, the reports of Barker and his associates, (16, 17) based on observation of 8,000 cases of which 2,000 were systematically studied, indicate that acute infectious hepatitis is more serious than was previously believed and emphasize the importance of prompt recognition and treatment. These workers found that about 10 percent of all cases progress to chronic impairment of hepatic function.

The evaluation of the results of therapy in an acute condition of this type obviously presents certain difficulties which are not involved when chronic disorders are concerned. However, Barker and his co-workers found that the average case requires from six to eight weeks for complete recovery and this gives a standard of comparison by which to judge whether the course of the disease is shortened by medication. These authors also concluded that in general the icterus index provides a guide to the rate of recovery from the disease.

The return to normal of the cephalin flocculation test appears to be slower, on an average, than clinical improvement or the reduction of the icterus index. This is in conformity with the findings of Eddy (11) in acute toxic hepatitis.

The four patients with acute infectious hepatitis included in the present series were all women, ranging in age from 19 to 56. The icterus index varied from 38 to 80, with an average of 55. One patient (the one with the lowest icterus index) was afebrile on admission. In the other three cases the temperature ranged from 100° to 101.2°.

In every case there was a definite and prompt response to methionine therapy, as shown by symptomatic improvement and reduction in the icterus index. In one case, the cephalin flocculation test, originally three plus, became negative; in another it was reduced from four plus to two plus. In the remaining two cases it was not reduced at the end of the period of observation.

In all these cases there appeared to be no doubt that the course of the disease had been favorably influenced and materially shortened by the administration of methionine. Brief histories of the three most severe cases follow:

*Case 4:* The patient was a hospital attendant, age 34, female. When admitted she complained of anorexia, chills, nausea, vomiting and diarrhea. The temperature was 100°, pulse 110, respirations 20. The skin had a marked icteric tint. The liver was palpable three finger-breadths below the costal margin in the right mid-clavicular line, tender and smooth. The icterus index was 43 and the cephalin flocculation four plus.

In the brief space of five days under treatment with methionine the icterus index fell to 13 and symptomatic improvement was noted. At the end of twenty-three days, all symptoms had been alleviated and the icterus index was 12. The cephalin flocculation test remained four plus.

*Case 5:* The patient was a housewife, age 56. On admission she appeared acutely ill. Anorexia, chills, nausea and vertigo were present. The temperature was 100°, pulse 100 and respirations 22. Sclera and skin were markedly jaundiced. The liver was palpable four finger-breadths below the costal margin in the mid-clavicular line. The icterus index was 80 and the cephalin flocculation three plus.

Five days after the institution of methionine therapy the icterus index had fallen to 32; at the end of nine days it was 23, and at the end of twenty-four days 16. Relief of other signs and symptoms paralleled the decrease in the icterus index, except for the cephalin flocculation, which remained three plus on the twenty-fourth day.

*Case 6:* The patient was a secretary, age 21, female. She complained of anorexia, nausea, vomiting and malaise. Her temperature was 101.2°, pulse

83 and respirations 20. Skin and sclera had an icteric tinge; the liver was palpable two finger-breadths below the costal margin in the mid-clavicular line. The icterus index was 60 and the cephalin flocculation four plus.

In this case, also, progressive improvement in all signs and symptoms was shown under methionine therapy. At the end of eleven days the icterus index had fallen to 20 and the cephalin flocculation to three plus. Twenty-one days after the beginning of medication the icterus index was 15 and the cephalin flocculation two plus. All subjective symptoms were relieved.

### Conclusion

The favorable results obtained in a series of 10 cases of hepatic impairment, including five cases of cirrhosis of the liver, one case of fatty infiltration of the liver, and four cases of acute infectious hepatitis appear to warrant the conclusion that methionine deserves an extensive trial in these conditions.

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247 Park Avenue

# OBSERVATIONS ON THE OCCURRENCE OF ANEMIA IN PREGNANCY

W. KOCH, M. D., Ph. D., D. KAPLAN, Ph. D., M. Sc.,
and A. SADOVSKY, M. D.
Jerusalem, Palestine

Estimations of hemoglobin in blood have been repeatedly advocated as a yardstick of nutritional status in pregnancy. In these surveys it is a common practice to compare the means when comparing different populations. This, however, might be quite misleading. The purpose of the present paper is to show which characteristics other than the mean afford relevant additional information.

Three hundred fifty-four pregnant women (up to the sixth month of pregnancy) investigated in Jerusalem last summer showed a mean hemoglobin level of 12,44g/100 ml.* A similar group (219 cases) forming part of an extensive survey conducted in Great Britain (1) had a mean hemoglobin level of 12,9g/100 ml.** which is significantly higher than ($p < 0.000.01$).

Taking 70 percent on the Haldane Scale (corresponding to 10,36g/100 ml.) as the upper limit of anemia, the percentage incidence of anemia is 5,8 percent in the British survey but only 2,54 percent in ours. This difference in rate is significant ($p = 0.03$). Obviously a discrepancy exists which can only be attributed to a different distribution of cases within each population.

The higher incidence of anemic cases among the British pregnant women might be explained by a wider dispersion about the mean, or by a skewness towards the cases low in hemoglobin.

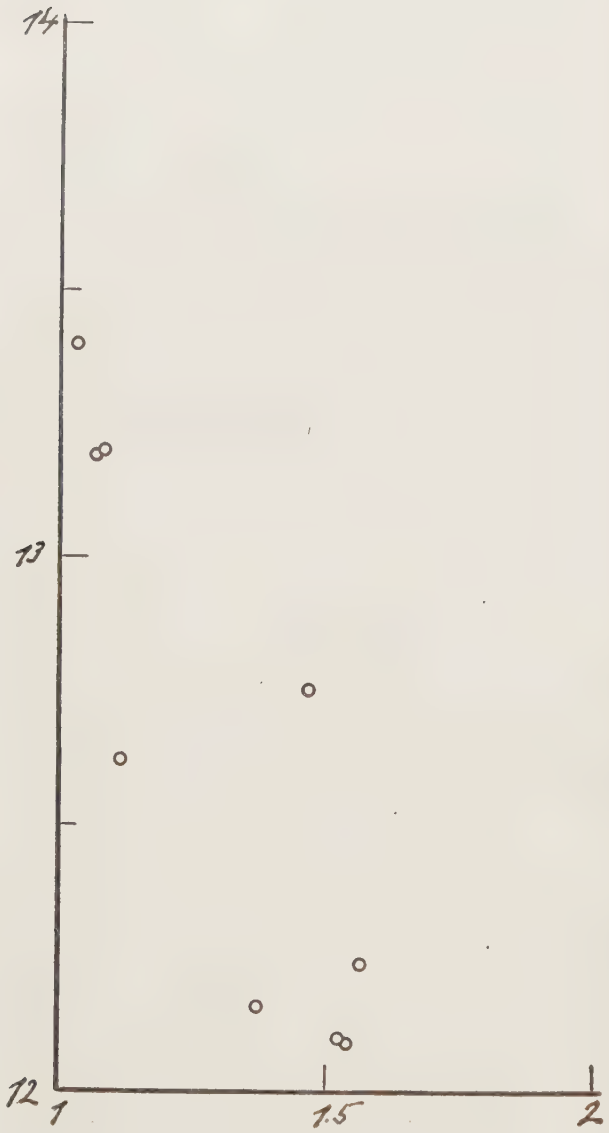
The standard deviation seems to be a useful tool in estimating the dispersion about the mean. But as the error of technique enters the standard deviation as well, tending to increase it, some precautions become necessary. In our series duplicates were taken, and the result discarded if the difference between duplicates exceeded 0,3g. hemoglobin.

Subdividing our group of pregnant women according to their community, we find a difference, not only in their mean hemoglobin but in their standard deviation as well:

* The authors wish to thank E. J. King, prof. for a sample of his standardised haemin which served as a reference.
** 100 percent on the Haldane Scale correpond to 14,8g/100 ml.

Fig. 1

Hemoglobin levels vs. their standard deviations in pregnant women (British Survey).
Coefficient of correlation is —0,6866 $p < 0.05$.




a. Grams hemoglobin/100 ml. (Vertical)
b. Standard deviation (grams hemoglobin) (Horizontal)

TABLE I.

| | Number: | Mean Hemoglobin: (g/100 ml.) | Standard Deviation: (g/100 ml.) |
|---|---|---|---|
| Ashkenasic:* | 143 | 12,56 | 0,842 |
| Orientals:** | 211 | 12,36 | 0,956 |

While both means differ significantly, the difference in standard deviations is just below the level of significance.

Recalculating the figures obtained in the British survey (1) we find that mean hemoglobin values in general decrease in the course of pregnancy, while the standard deviations rise. Means and standard deviations are connected by a negative significant coefficient of correlation (fig. 1). This is rather surprising, as the relationship:

$$\frac{\text{Standard Deviation}}{\text{Mean}}$$

generally tends to be constant in many biometric measurements.

Though some conclusions may be drawn from the increase of standard deviations among certain populations of pregnant women, we would like to have two definite questions answered, *viz.*, how many anemic cases are to be expected within a certain population, and whether two investigated groups differ in their incidence of anemia.

If only one group is available, any undue number of anemic patients is easily revealed when testing the skewness of the distribution. It can be shown by the chi-square test that the distribution in the British survey quoted above (1) differs significantly from a normal one ($p < 0{,}001$). This deviation from normality is mainly due to the excess in the group below 10,36g/ 100 ml. (13 cases found, but only five expected, when assuming normality).

In our Ashkenasic group (which also has the higher mean) symmetry is perfect, while the second group (Orientals) shows a slight but insignificant negative skewness (—0,07955). This negative skewness means that the low values outweigh the high ones. The distribution of hemoglobin values among Orientals is significantly flat-topped. Comparing two groups we simply have to test whether the incidence of anemic cases among two populations differs significantly.

In practical work a card index of all cases is quite useful. The following worked example shows how, without much arithmetic, approximate solutions can be found.

### Worked Example

A. *To test symmetry and rate of incidence in a certain population:*

The first, second and third quartile are determined from the card index. For this the cards are arranged according to their hemoglobin values, beginning from the lowest. After counting the total number of cards, (e.g. 211 in our Oriental group Table 1), this number is multiplied in rotation by 0,25, 0,5 and 0,75. Thus we obtain $211 \times 0{,}25 = 52{,}7$, $211 \times 0{,}5 = 105{,}5$, and $211 \times 0{,}75 = 158{,}3$. Consequently we note hemoglobin values given on the 53rd card (first quartile; 11,57 g.), on the 106th card (second quartile, ((median)); 12,41 g.) and on the 158th card (third quartile; 13,78 g.). When counting the cards the number of cases occurring below 10,36 g (or 70 percent on the *Haldane Scale*) is noted as well (6 cases). It is obvious that in a perfect symmetric population the following relationship is valid: (2)

3rd Quartile — Twice Median + 1st Quartile = Zero. Inserting the actual figures we obtain:

$13{,}18 - 2 \times 12{,}41 + 11{,}57 = -0{,}07$, indicating negative skewness. In order to obtain

* Ashkenasic means of Central and Eastern European extraction.
** From countries bordering the Mediterranean basin.

an absolute index of skewness and to remove arbitrary units of scale, we have to divide this figure by the standard deviation (0,956, Table I). Or: —0,07/0,956 = —0,0732, which figure does not differ much from that found by the exact method (—0,07955), when calculating the higher moments about the mean. The chi-square test may also be used for testing normality.

B. *To find whether the incidence of anemic cases in a population is unduly high:*

Our Oriental group has a mean of 12,36 and a standard deviation of 0,956. Our border of anemic cases (10,36) differs by: 12,36 — 10,36 = 2 from the mean. In terms of the standard deviation, this is 2/0,956 = 2,09. Entering a table of the probability integral with this figure we find 0,0184. This means that in our population of 211, 0,0184 × 211 = 3,88 cases below 10,36g are to be expected; actually 6 cases below this border are found.

C. *To find whether two populations differ significantly in their incidence of anemia:*

When counting the cards (see sub a), the number of cases below 10,36 has been established. Dividing this number of cards by their total number, we obtain the rate (p): 6/211 = 0,0284. Similarly the rate in the British survey is found to be 0,058. The weighted rate, common to both populations, is (3):

$$\frac{6+13}{211+219} \quad \frac{19}{430} = 0,0442$$

The standard deviation of the rate in our Oriental group is:

$$\sqrt{\frac{p(1-p)}{n}} \quad \sqrt{\frac{0,0284\times0,9716}{211}} = 0,011435 = \text{sigma Orientals,}$$

and in the British survey:

$$\frac{0,058\times0,942}{219} = 0,015795 = \text{sigma British.}$$

The rate of anemia in Orientals is 0,0284, in the British survey 0,058. The difference between the rates is: 0,058 — 0,0284 = 0,0296. The standard deviation of this difference is:

$$\sqrt{(\text{Sigma Orientals})^2 + (\text{Sigma British})^2} = \sqrt{(0,011435)^2+(0,015795)^2} = 0,01949.$$

The difference in rate is:

$$\frac{0,0296}{0,01949} \text{ sigma} = 1,52 \text{ sigma,}$$

which corresponds to a probability of 0,13, the difference in rate thus *not* being significant. Note, however, that by pooling both of our groups in Table I, the difference in rate *does* reach the level of significance (p = 0,03) (see also above). The distribution of anemic cases in the British group and our two groups is shown in fig. 2.

Fig. 2

Cumulative percentage frequency of hemoglobin values in pregnant women.

(1st and 2nd Trimester)

a. Quartiles (median) (Vertical)
b. G hemoglobin/100 ml. (Horizontal)

1. Ashkenasic (143 cases) 1. —0—
2. Orientals (211 cases) 2. —0—
3. British Survey (213 cases) 3. —0—

(Shown in Fig. 2)

## Summary

The mean hemoglobin values found in surveys are not invariably sufficient for estimating the true incidence of anemia. Symmetry and Rate of Incidence of anemic cases should be tested as well. It can be shown that the standard deviation of hemoglobin values rises during pregnancy, while the mean decreases. The distribution of hemoglobin values in apparently healthy pregnant women is approximately normal. Simple guiding lines are given for obtaining relevant characteristics of the distribution without much arithmetic.

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Hebrew University and Health Welfare Centres Prenatal Care—Hadassah Medical Organization.

# DOMINANCE IN SELECTED NEUROLOGICAL DISORDERS*

FREDERIC JAMES FARNELL, M. D.
New York City

In 1776 a great revolutionary document was presented to the world—the Declaration of Independence of the United States, under the caption of equality is written: "We hold these truths to be self-evident that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness".

Professor Fisher reports in his book *The Genetical Theory of Natural Selection* that the fact of the decline of the past civilizations is the most patent in history and since brilliant periods have frequently been inaugurated in the great centres of civilization, by the invasion of alien rulers, it is recognized that the immediate cause of decay must be the degeneration or depletion of the ruling classes. Many speculative theories have been put forward in explanation of that remarkable impermanence of such classes.

These two questions are left for your evaluation as the question of dominance in a selected group of neurological disorders is presented, with its multiplicity of complications.

The wide-spread interest today toward a unit and/or total view of disease rather than that outmoded consideration of similarities as an end, offers no better evolutional possibilities than *those exemplified by the muscular atrophies and allied disorders* whereby the means activating these conditions at least under the caption of scientific theory, can be fairly accurately determined clinicogenetically.

One would not discuss the coal industry without a consideration of its relation to finance, the steel industry, car-loadings, unionism, ship-building, etc. So, too, in the consideration of these *dominant's,* not only should genetics and heredity be considered, but also biochemistry, electromagnetic rhythm, endocrine dyscrasias, cyclonic and meteorological phenomena and their nurtural settings in contradistinction to their natural settings.

It is a rather embarrassing situation to meet when one is faced with the question as to just why one's daughter should have *Friedreich's ataxia* or one's son should have *progressive muscular dystrophy.*

In the past the loop-hole might have been hereditary or familial, but maybe the future will hold out more hope for us. Perhaps when the genephase is about to be established, a setting the antithesis of a known type with a near-basal integration will be available in a biochemical set-up, enabled through high vitaminized food, etc., along with a neutralized electromagnetic rhythm maintained by a harmonized chemical-autonomic-endocrine trinity and a weather compatible with this 'ideal'. This aplasia as well as cellular degeneration or a failure of the oxidation-reduction potential to stabilize, etc., will be reversed into a normal cellular and tract generation and a balanced oxidation-reduction potential.

The stability or instability of the mother is a variable, and the potential will bear a close relation to the ion milieu of the embryo, the pH relativity, the calcium and potassium balance, the calcium ionization dyspiersion, etc., mechanically and/or chemically influencing the possibility of cellular adhesion, evolution, solution and their reaction celerity.

The fact that in so many of these neurological disorders such as: amyotonia congenita, progressive muscular atrophy, Huntington's chorea, Wilson's progressive lenticular degeneration, progressive muscular dystrophy, Friedreich's ataxia, myotonia congenita, Charcot-Marie-Tooth atrophy, there can be elicited in members of the family and in the immediate relatives, one or two or even more signs directly related to the nervous system. These are indicative of selective potentiality which may or may not reach the acme of a clinical entity. It is this potentiality which actually exists and as such it is a predisposition.

Activation is induced into a clinical entity wherever and just as soon as any extrinsic or intrinsic factor upsets a balance or produces an unbalance which will then exaggerate this inherited existent predisposition and hence, from a condition of latency and recessivity, a dominance will develop. This can be classically illustrated by the disorder recognized as intermittent paroxysmal cerebral attacks (epilepsy) so often a potentiality and activated by either exogenous or endogenous factors, or both.

The last global war hastened investigations into meteorological changes, oxygen deficiencies directly related to barometric pressure and its essentialness to aviation and aeronautics. One can observe the severity of the examinations and the training necessary for our boys to become members of bomber crews, and with that in mind, when selected, one might say that 'the boys are psychosomatically superior'. Data of great value should be forthcoming, but that data will fail to meet in its application the more susceptible and inadequate individual one meets medically and/or psychologically, in whom the blood dysfunction may be due to an organ dysfunction. Control of the oxygenation of the blood and its accessories is one thing and anoxemia of tissue is still another as well as it frequently being an insidious subterfuge.

Hacher's (1) observations fall into two categories. He says: "On the one hand the cases in which the disease occurs in a family with great similarity as far as localization, period of appearance and the clinical course are concerned and occurs in a very

* Presented before the National Research Foundation for Eugenic Alleviation of Sterility, Inc. Division on Education in Heredity and Eugenics.

definite manner, either continuously through several generations or, apparently not transmitted but among several brothers and sisters.

"Without doubt one would get the impression that we are dealing here with something that is associated with Mendelian transmission. On the other hand, there are cases known where undoubtedly an hereditary basis exists but in which the clinical picture of the disease may show a marked variation in different individuals or an interfamilial alteration of various diseases in an identical localization, as, for instance, in the stomach, in the kidneys and in the liver.

"What seems to be inherited here is obviously a constitution or a certain habitus or status, a soil on which varying pathological conditions may develop depending upon conditions."

Mendelian inheritance apparently occurs only in those characteristics which have in their developmental history a relatively uncomplicated ontogenetic process. This is probably due to the fact that during the period of phylogenesis, the level of organization must be and is always on the rise; whereas, ontogenetically, these uncomplicated processes taking place during embryological evolution have very little happen to them except such as the 'energy drive' associated with metabolism which might incur.

In this small group under discussion, frequently there is a deviation from this aforesaid more or less orthodox Mendelian inheritance, with our dominants being; amyotonia congenita, progressive muscular atrophy, Huntington's chorea, Wilson's progressive lenticular degeneration, myotonia congenita. The recessives under discussion are; progressive muscular dystrophies and Friedreich's ataxia. The lone-sex linked recessive is Charcot-Marie-Tooth neuromuscular atrophy.

This may be simplified in its meaning or it may be made drastically confusing. However, there is a great possibility that a man carrying an heterozygotic gene may die before he himself would develop the specific condition and hence he will be charted in his history as *normal.* And yet if he has transmitted this potential gene, the offspring will develop the disease should they live long enough and the conditions are such as to nourish this potentiality. Such was the case in a *Huntington's chorea, e. g.* L. P. was killed in the Civil War at the age of 26 but was the father of an only child, a girl, who developed the disorder.

It is necessary to refer again to unbasal intrinsic disorders, endocrine and autonomic dysbalances, environmental perversions with cyclonic, meteorological, seasonal and regional factors as an answer to the differences in frequency and the degree of infringement.

Let us discuss *amyotonia congenita* or Oppenheim's disease which is quite similar to *Hoffmann-Werdnig's atrophy,* and of course, with the usual controversy, the former is not hereditary or familial and the latter is both hereditary and familial. Forbus and Wolf (2) in 1930, reported autopsies on identical twins which findings can easily apply to both of the above types as indicative of a developmental germ defect, present at birth and which manifests the clinical picture when the variable or integrated movements, such as the throwing of the arms aimlessly, and the kicking of the legs, fails to take place. In the former, during early infancy, (six to twelve months) and in the latter, when the complexity of muscular integration becomes definitely demanding, (two or three years of age). Both present pathologically much the same findings—a scarcity of anterior horn cells, neurophagia (cell bodies invaded by phagocytes), ganglion cells surrounded by glial reaction and a degeneration of the anterior roots and nerve with the preservation of the posterior root and nerve and the afferent fibers.

Fig. 1

M. H. Whole body photo showing the retraction of the neck and the dropping of the jaw, the contraction of both upper and lower limbs, infolding of the fingers and blurring indicating an upper body tremor.

In summing up for a grand total in these disorders, there must be a factor, a coefficient so to speak, which one might call a susceptibility,—the muscles depend for their development upon a trophic power, even though up to a certain point a muscle will develop unto its own self (embryonic) and when this trophic influence *fails to begin,* as is apparently so in this type of disorder, or to follow through to normality, the essential normal movements do not take place. So, what one actually observes is a muscular defect entirely and what one does not observe or actually see is the 'potential' loss in the cellular activity of that total individual; in *amyotonia congenita* it makes itself manifest as an entity

*before* movement is inaugurated and in the *Hoffmann-Werdnig* type it is *deferred* and *incomplete* with the clinical picture of the 'thin man' and his contortionistic proclivities. At the same time, his muscles will show, microscopically, normal muscle cells, atrophic cells and embryonic muscle cells.

Two possibilities are now offered for our consideration, the one, that in the course of maturation and its subsequent fertilization, a 'something' is left out or perverted which gives rise to an imperfection in the development. But, this is a bisexual reproductivity,—is it in the male; is it in the female; or is it in the two in one?

In considering the thousands of ova with which a girl child is born and heir to, all but a few hundred are used as essential chemical constituents in her growth to her maturity, puberty,—and of this few hundred only a dozen, as an average, come to fertilization. The same can be said of the millions of spermatozoa of man which perish either by autolysis or are an extrinsic loss, without ever reaching the woman herself. And yet, just imagine what apparently is missing in the one of this few of the male and the female to have in its predestination a selective influence on the anterior horn cells, *and* in identical twins, that bisexual cell contains the totipotency giving rise to two complete humans suffering from identical nerve degeneration. Can we say it is an injurious agent passed from the mother in an unbasal condition electronic in type via the placental blood flow to them in their embryonic life?

*Huntington's chorea;* This author quotes from the original paper of Dr. Huntington as published in the *Medical and Surgical Reporter* April 13, 1872, as follows: " . . . It is peculiar in itself and seems to obey certain fixed laws. . .. The hereditary chorea is confined to certain and fortunately a few families, and has been transmitted to them—an heirloom from generations away back in the dim past. It is spoken of by those in whose veins the seeds of the disease are known to exist with a kind of horror and not at all alluded to except through dire necessity, when it is mentioned as 'that disorder'. It is attended generally by all the symptoms of common chorea, only in an exaggerated degree hardly ever manifesting itself until adult or middle life and then coming on gradually but surely, increasing in degrees and occupying years in its development, until the hapless sufferer is but a quivering wreck of his former self.

"It is as common—more common among men than women, while I am not aware that season or complexion has any influence. There are three marked peculiarities in this disease; (1) its hereditary nature; (2) a tendency to insanity and suicide; (3) its manifesting itself as a grave disease only in adult life.

"1. *Its heredity nature.* When either or both the parents have shown manifestations of the disease and more especially when these manifestations have been of a serious nature, one or more of the offspring almost invariably suffer from the disease, if they live to adult age. But if by any chance these children go through life without it, the thread is broken and the grandchildren and the great-grandchildren of the original shakers may rest assured that they are free from the disease. Unstable and as whimsical as the disease may be in other respects, it never skips a generation to manifest itself in another. Once yielding its claims, it never regains them.

"2. The tendency to insanity and sometimes that form of insanity which leads to suicide is marked—the mind becomes more or less impaired—they are constantly making love to some young lady not seeming to be aware that there is any impropriety in it—they walk as if intoxicated—and they never let an opportunity to flirt with a girl go past unimproved. The effect is ridiculous in the extreme.

"3. Manifestation as a grave disease in adult life. Before the thirty or forty year period of life, while those who pass the fortieth years are without symptoms, are rarely attacked. I have never known a recovery or even an amelioration of symptoms in this form of chorea; when once it begins, it clings to the bitter end. It seems to be one of the incurables.

" . . . I have drawn your attention to this form of chorea, gentlemen, not that I considered it of any great practical importance to you, but merely as a medical curiosity and as such it may have some interest."

One cannot but feel that the aforesaid description as made by Dr. Huntington, three score and ten years ago, still stands in many respects clinically. Adolf Strumpell, Breslau, and M. Lannois, Hospital at Lyons, 35 years ago, recognized in their pathological investigations on autopsied cases 'thickened meninges, atrophic conditions of the cortex, proliferation of the neuroglia and miliary encephalitic foci'. It has been only within recent years, less than thirty, that the probable true significance, through special methods of staining, of the excellent work of Jacob, S. A. K. Wilson, C. B. Dunlop and Otto Mohr, that this disorder becomes identified with the extra-pyramidal system, which system is normally a silent system with circling gyroscopic impulses. When chemical changes take place there is a more or less grievous alteration in the conduction speed, in its intensity, in the time relation for a complete circuit and also in the completion of their refractory cycle, a confusional neurogenic reaction.

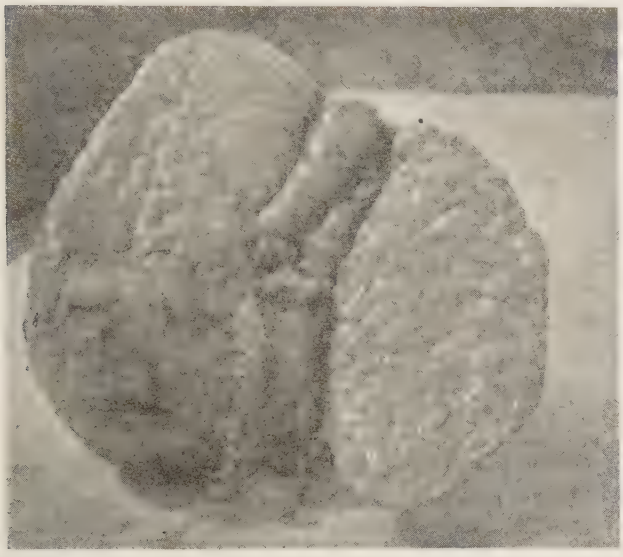
Passing from this definitely dominant type to Wilson's *progressive lenticular degeneration** which is looked upon as both a dominant and a recessive disorder, one immediately comes upon a factor vital to the diagnosis of Wilson's disease. The liver in these cases presents an hepatitis, not a cirrhosis,—an hepatitis without, and within the limits of our present clinico-pathological tests, either biochemical or symptomatic indications of liver disintegration.

There is a bilateral and a fairly symmetrical degeneration of a selective area of the extrapyramidal tract and no impact whatever between this ganglia system and the subcortex and/or cortex, plus this

* Author's Case; Jour. of Clin. Path., Vol. 1, No. 8; 1915.

liver involvement. In Huntington's chorea, however, there are massive cortical changes with special reference to the lower layers of the frontal and the temporal lobes, selecting here as elsewhere only the small ganglion cells with a mild glial reaction and a moderate demyelinization. That there may be some relation between these two conditions might be conjectured since in Wilson's disease there is a chemical perversion of intermediate combustion products in which a ferment and/or an enzyme fails in its leavening-quality,—in Huntington's chorea the iron component, an electron, essential to oxygenization is in greater quantity in the diseased parts of the brain than in the non-affected areas,—is this storage an effort at cellular respiration which in time fails and ends in a chematosis?

Fig. 2



M. H. Liver -(uncut section). Showing an evident cirrhosis with irregular nodules varying in size. Capsule thickened giving it a glossy appearance.

### Progressive Muscular Dystrophy

(Author's cases: A complete report was not published)

A recessive type, familial in character, occurring mostly in boys and makes its appearance before puberty. The child apparently develops normally. He is considered chubby or fat but was always clumpsy and frequently would stumble and fall down. As time goes on the chubbiness or fatness, in the legs particularly, seem to fade away (absorption) and a weakness evident early by falling down, now becomes a factor, unattached to the previous stumbling or running, with a final inability to walk. He will usually present a characteristic waddle upon walking and whenever attempting to arise from a supine position, he will 'crawl up upon himself' in a fashion most characteristic of this condition.

Timme, in 1917, was impressed with the fact that these cases began at or about puberty and that they were probably endocrine dysfunctions. Later it was thought that it was a dietary disorder and coincident with the deemed essentialness of vitamins.

Wheatgerm oil became a popular form of treatment. Since the oil had a tendency to deteriorate more quickly than the 'germ' itself. The latter replaced the oil since the 'germ' could be obtained regularly as well as fresh.

What is this 'wheat germ's' value? It is one of the sources of vitamin E. It is the embryo grain and not the endosperm, which the bulk-flour is; the oil can be obtained from the grain. It has been called the 'antisterility vitamin',—yet, in a man who is sterile it has no value. In women it is claimed that it will prevent miscarriages indicating that the damage produced by the E deficiency is not in relation to her sterility but her ability to carry through her impregnation to a completion.

The marvelous mechanics nature has given to woman to enable her through the placental stage to manufacture a ferment, one which digests uterine muscle for the purpose of ultimately fixing the placenta so that it may serve as a contact between the mother and the fetus. It is the balancing factor manufactured by this mother-tissue to serve as an antidigestive ferment which acts as a regulator of 'strength' of this developmental placental digestive ferment.

When the balance is correct, pregnancy will go along smoothly and uninterrupted but when the antidigestive ferment is greater, in excess of the digestive units, there is a miscarriage. It is here that the neutralizing value of vitamin E, by taking up the excess, is of value in the prevention of miscarriages. Strange as it may seem, the use of vitamin E has become an effortless gesture in attempted cures in the muscular dystrophies.

The largest percentage of cases is in males and the disorder makes its appearance inside of the first seven years of the child's life (rapidly developing to and through puberty). Some investigators have been led to believe that the chief deterrent must bear some relation to the biological evolution of the 'being a male' and that the pituitary, the adrenals and the gonads fail to integrate normally, which may be due to, an enzyme-catalyst associated with the dysfunction of the stomach-liver-pancreas triad.

Disturbances in chemical reactions within the body and centering around the excretion of creatine and glycocyamine have been noted. Experiments are now being carried on by a group of investigators on human beings using the male hormone, methyl testosterone, (which is thought to produce a creatine storage) and that any creatinuria which may accompany this storage is considered an overflow due to a rapid synthetization.

In the progressive muscular dystrophy cases, a small few have shown an increase in creatine output and that it will continue just as long as the medication is administered. But, with testosterone propionate there is no change in output during the period of administration. Yet, upon its cessation of medication intake there is a rapid excretion which would indicate that the period of storage does not reflect itself, at least for short periods of time.

If the above fact can be carried further to show that the storage has a definite placement in the

muscles and that it can be altered or reversed, possibilities hover into light as far as the patient is concerned. It is quite possible that the or one of the excitors, which is probably a sterol, a fat-soluable amid, appears in a masked form. Is it possible for this excitor to activate in and of itself, or is it one of the catalytic reaction type which breaks open the timely active unit?

This approach seems to bring us somewhat closer to the problem of oxidation-reduction dysfunction but not until these dysfunctions can be reversible will the permanency of these speculations settle on solid ground.

### Friedreich Ataxia

This condition is a system disease in which the fibers selected are in the spinal cord affecting the posterior and the lateral columns.

Friedreich described this condition in 1861 and at that time he made the statement, that these tracts failed to reach a full development and along with that failure there was a slow atrophy of the neurones. It is a familial and a hereditary type of disorder but is classified with the recessive group. It develops at or about puberty affecting females more than males.

In our family group, the mother, age 45 years, (at the time of examination in 1912)* was the third child in the Poiquet family. They were of French-Canadian extraction, who came to a mill village in Rhode Island where they brought their respective families. She showed no abnormalities with the exception that her knee jerks and Achilles jerks were absent.

This woman, a Poiquet, married a Cote and by this marriage had seven children of which the patient, Eva Cote, was the fifth. She was seen by the examiner when she was 17 years of age and she said that she began to have trouble walking at the age of 11 years. This difficulty progressed rather rapidly until she had become incapacitated and totally unable to walk.

The neurological syndrome is definitely related to the posterior and the lateral columns.

The affected children of families No. 1 and No. 3 presented the picture indicative of an affection of both the lateral and posterior columns whereas the children of family No. 4 presented, at the time of the examination, only signs of involvement of the lateral columns.

Family No. 2 refused even to discuss the possibilities of this disorder affecting their members. They indicated a mild persecutory trend, reluctant to accept the examinations as purely a research problem and since they were the last to settle in this mill village, there was suspicion that they were going to be sent back to Canada.

### Myotonia Congenita: (Thomsen's disease)

This condition is usually considered dominant in type. It is referred to at this point that one might not be confused with *amyotonia congenita* already described. Thomsen's disease is familial and hereditary, occurring mostly in the male and it usually makes itself manifest just before or at puberty.

It is characterized as an inhibition of voluntary movement through a sudden contraction of muscle groups and their concomitant failure to release.. Some muscles show a definite hypertrophy. The picture presented is usually understood to be a syndrome and there are only very few cases in literature which have been accepted as clean-cut entities. These latter cases are then grouped with the myopathies.

The possibility of these conditions being related to the myasthenias, must not be passed over too quickly. In contradiction to the myasthenics there is an increased threshold with contraction without release, rather than release with no contraction.

Prostigmin aids materially the comfort of the myasthenics by its cholinergic quality in that it maintains the flow of parasympathetic impulses through the inhibition of the choline esterase. The choline esterase, when greater than the acetylcholine radicle (in the normal it is just the reverse) have the impulses transmitted through the preganglionic fibers of the parasympathetic system and are lessened maybe unto a loss. The prostigmin acts as an inhibitor, facilitating the impulse to be transmitted.

Just as in myasthenia there is a constitutionally inferior autonomic control with a decreased threshold associated with a chemical dysfunction in muscle metabolism. Therefore in myotonia congenita there may be a constitutionally inferior autonomic control with an increased threshold associated with a perversion in metabolism through its electro-magnetic rhythm as expressed through the motor synapses and encouragingly influenced by the ions calcium, magnesium and others whose valency is above one.

The phenomena of myotonia present added complications and brings seriously to our attention the metabolism of muscle, the biochemistry of the blood from the electronic standpoint, the autonomic nervous system and the endocrines. One's attention is also called to the fact that there are families in which there happens to be a myotonia and other members suffering from a migraine, and/or angioneurotic edema or even Dupuytren's contracture with other dominants occurring in collateral relatives, a factor emphasized by Hacher.

### Progressive Neuromuscular Atrophy of Charcot-Marie (3) Tooth (4) Type:*

This disorder is a sex-linked recessive and has been referred to by some writers on neurology as the 'link' between the other forms of atrophy. It, too, is familial and hereditary and also, degenerative. The condition occurs more in men than in women.

Nevertheless, the case under discussion happens to be a woman seen by the examiner in 1911 and as

* Author's Cases; "Hereditary Spinal Ataxia", **Arch. Pediat.**, January, 1916, New York.

* Author's Case: A case of progressive muscular atrophy Charcot-Marie-Tooth type; Boston Med. and Surg. Jour. Vol. clxiv, No. 20, pp. 714-1716, May 18, 1911.

far as could be determined must be one of those so-called 'isolated' cases. Church (5) in 1906 reported a case and he was able to trace the disorder for five successive generations.

Our patient was a widow, 46 years of age who in ten years prior to 1909 had had three distinct attacks of manic-depressive insanity, each ending in a complete recovery. It was while she was suffering from the third attack that the examiner observed this particular type of muscular atrophy. In the latter part of 1906 she noticed that she could not use her hands as well as formerly and that the right hand was somewhat numb and stiff—later she developed a double wrist-drop.

The patient noticed in the Summer of 1907, that her gait was becoming impaired. It became stiff and she could not stand upon her heels. These incapacities continued to progress slowly and when she was seen in 1909 while in a manic excitement, the typical picture of atrophy of the forearms, of the lower legs and the 'main angriffe' were present.

She could not stand on her toes or her heels; the knee jerks and the Achilles jerks were absent. She had a steppage gait. There were fibrillary twitchings and clonicity of muscle-bundles with muscle quiverings. Electrical irritability was diminished to both galvanic and faradic currents.

The above syndrome would suggest by muscle atrophy, peripheral neuritis, anterior horn changes and probably the involvement of the posterior columns, the disease described is one of the Charcot-Marie-Tooth progressive muscular atrophy.

## Conclusions:

When we manifest our hopes for success in sociogenetic biology we must not fail to recognize and to consider, in addition to a scientific theory of approach, our own selves.

Each one of us is a part of a developmental evolutional history and when we take something for a fact, we must immediately ask ourselves as to just why we take it as a fact. In this presentation facts have been given.

A full realization of the total human being with variations in onset and the distributions as indicated by sex, male and female, (in its hereditary and familial setting) may have a definite modification by natural selection. It is noted that dominants manifest their developmental defects either prior to their reproductive period or in the latter part of their reproductive life; amyotonia congenita, Huntington's chorea, Wilson's disease. This would be highly suggestive of the fact that the female as a purveyor of these types, is more seriously afflicted as compared to the male.

In contradistinction, the opposite types, recessive and sex-linked, are those in which the males are more apt to be severely afflicted. This lessening, so to speak, prepares her for reproduction. Hence one can see that there is a 'conditioning' for good as well as for bad.

The female with a potentiality, is more apt to marry and reproduce, whereas, a male with a similar potentiality is less apt to marry and thus affect a break in the strain. Just why this happens to be a fact would take us far in the field of security or better psychosexual economics. Yet, at the same time, it would highlight the fact that sociology and its innumerable integrations are closely related to those of the biologists and the geneticists in their great zeal to solve these intricate problems.

However, aside from these definite assertions, one must recognize that a lessening in fertilization may be due to a lessening in one's libidinous drive. There is a definite seasonal rhythm with all human beings —and all human beings are on the acid side relatively with an accompanying diminution in desire and urge. Any tendency for the male products to accomplish fertilization would tend to bring injury to the ovum and the embryo with ionic changes in conduction pathways interfering with the reaction velocity and induce a dysrhythmic reaction in the gene.

Peterson (6) says: "We are in the habit of thinking of selection as applying only to the individual organism. On the contrary, selection and survival of the fittest cell must be going on all the time when the tissues are being put to unusual functional demands—this tide—is cyclonically conditioned." In conclusion this doctor can see no reason why the spermatogenes should not be subjected to the same ruthless selection—for the human is a 'cosmic resonator'.

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51 East 90 Street

* * *

Cazenave, a pupil of Biett, was born in 1795. He has Lupus Erythematosus named after him as *Cazenave's disease*. Cazenave gave the original description of Pemphugus foliaceus, hence, Cazenave's disease. Cazenave died in 1877.

* * *

Parakeratosis psoriatiformis, or parapsoriasis, is known as *Brock's disease*, after Anne Jean Louis Brocq. Brocq described pseudopelade, lupus sycosis, pruritus with lichenification and acne excorie des jeune filles.

# OPIUM SMOKING IN CHINA

ALBERT FIELDS, M. D.
Los Angeles, Calif.

The original home of the opium poppy was not China but Asia Minor. (1)

Neligan (2) states that, "The earliest known mention of the poppy is in the language of the Sumerians, a non-Semitic people who descended from the uplands of Central Asia into southern Mesopotamia, there to found a kingdom some five or six thousand years before the birth of Christ."

These remarks are based largely on Thompson's (3) translation of the *Assyrian Medical Tablets* (about 700 B. C.) . . . "Early in the morning old women, boys and girls collect the juice by scraping it off the wounds (in the poppies) with a small iron scoop, and deposit the whole in an earthen pot." This procedure has not changed greatly until today. The Assyrian word for juice of poppy, *Arat Pa Pa,* may be the origin of papaver. The Sumerian ideogram GIL HUL of about 4000 B. C. has been interpreted as the "joy plant", referring to opium. (4)

When they conquered Assyria and Babylon the Persians probably learned about opium. Failure to mention opium in any of the Persian texts until the sixth century A. D. is explained by Neligan on the basis that the early Persians left no literature other than their sacred books.

It is from *Egyptian Thebes* that we have the term "opium thebaicum" and the alkaloid thebain. The *Egyptian Ebers Papyri* about 1550 B. C. mentions opium among some seven hundred other remedies. At an early date opium-eating was probably practiced in Persia. Homer's *Odyssey* (about 900 B.C.) describes the cup of Helen, "Inducing forgetfulness of pain and the sense of evil."

Pliny and later "authorities" have deliberated extensively as to the exact nature of this draught. For leucorrhea Hippocrates (460-357 B. C.) recommended drinking the juice of the white poppy mixed with seeds of nettle. In another passage he recommends the use of the poppy in "uterine suffocation" and describes the juice as "hypnotic (upnotikon) meconion".

Theophrastus (370-286 B. C.) mentions the poppy and the method of gathering it. Virgil (70-19 B. C.) mentions the sleep-bringing poppy in the *Georgics* and again in the *Aenead.* (Spargens humida melle soporiferumque papaver). Scribonius Largus described the method of procuring opium from the capsules, about 40 A. D. In 77 A. D., Dioscorides distinguished between the latex of the capsules, opos and an extract of the whole plant.

Later Pliny, Celsus and Galen described the medicinal uses of opium.

The drug became so popular in Rome that it fell into the hands of shop-keepers and itinerant quacks. With the spread of Mohammedanism, Arabic physicians used it extensively. Abul-ali-ibn-Sina or Avicenna recommended it especially in diarrhea and diseases of the eye and he is said to have died from an overdose of the drug. Maimonides and Averroes each wrote a treatise on the drug.

## Opium In China

Opium (ya-pien) is first mentioned in Chinese literature in the Supplementary Herbalist by Chen Taang-Chi, during the eighth century. It was originally used in China for medicinal purposes in capsules and as an extract.

Opium was probably first brought to China and India by Arabs who are known to have traded with the southern part of the Chinese Empire as early as the eighth century. At an early date the bulk of the opium for China began to come directly from India. The earliest mention of the cultivation of opium in India is by the traveller Barbosa in his description of the Malebar Coast in 1511.

A Portugese historian, Pyres, in a letter to Manuel, King of Portugal, in 1516 speaks of the opium of Egypt and Bengal. In the Middle Ages the growing of opium became a monopoly of the Moghul emperor. This monopoly was later taken over by the notorious East India Company and finally by the British government. This monopoly and the use of opium in trade became a major factor in the spread of opium addiction throughout the world and especially in China.

A considerable amount of opium also reached China by the overland route through Central Asia through the agency of Mohammedan merchants and from Burma and India. Some of this opium was tribute. It is recorded that in the Ming Dynasty (1368-1644 A. D.) as much as 200 catties (1 catty: 16 taels:1⅓ lbs.) for the Emperor and 100 catties for the Empress were presented as tribute.

Opium addiction seems to have begun with the Persians. At a very early date they practiced opium eating. The habit of smoking opium mixed with tobacco and coir (cocoanut fibre) came to China from Java by way of Formosa late in the reign of Kang Hsi (1662-1723 A. D.) As a result of a report from Formosa describing misconduct due to opium smoking, the first edict against opium smoking was issued in 1729 by Emperor Yung Cheng.

At that time the importation of foreign opium amounted to only 200 chests a year. By 1796 it was 4000 chests and by 1840 the trade amounted to more than 47 million dollars a year.

To achieve trade balance for the large amount of silk, tea, tung-oil and other products bought from China, the Portugese and then the East India Company and later the British government brought increasing amounts of opium to China from India. With an abundant supply of cheap opium, the custom of opium smoking rapidly spread over China.

In 1800 the Chinese government had declared

opium contraband. The Opium War of 1840 began with the dumping of British opium into the Pearl River at Canton under orders of the famous magistrate, Lin See Mu. The war ended in 1842 with the opening of Treaty Ports to foreign trade, the ceding of Hong Kong to the British under Sir Henry Pottinger and the payment of a large indemnity. Since this time opium smoking has prospered in China.

However Chinese statistics are very inaccurate. At one time, there were estimated to be over forty million opium smokers in China—almost a tenth of the total population. In Foochow alone there were said to be 1000 registered opium dens, they being more numerous than tea or rice shops.

In the Yangtse Valley there were over five million addicts. Today the number of addicts in China has been considerably reduced, except in some regions such as Yunnan, where over one-third of the adult population is opium-smoking.

## Attempts To Control Opium

There have been numerous edicts and laws against opium smoking but very little effort made to curb opium production or importation. In 1907 China entered into the "Ten Years' Agreement with India" by which China would cease cultivation of the poppy and forbid the consumption of opium on the understanding that the export of Indian opium to China would be reduced and cease altogether in ten years.

Following the proposal of Theodore Roosevelt, an international opium commission representing 13 powers met at Shanghai in 1910. Their recommendations formed the basis of the first Opium Convention which was drawn up at The Hague in 1912. World War I and internal political troubles in China retarded opium control.

Through the League of Nations the Hague Convention was ratified. Unfortunately, it was decided that no rationing could be enforced so long as the producing countries could not control smuggling and a large illicit supply of opium remained uncontrolled. The convention of 1925 and other measures of the League were steps in the right direction. However, most of the countries of the Near and Far East and all the big colonial powers, except the United States, continued to have opium monopolies —a good source of revenue and a means of keeping the population in subjugation.

In 1934 the Chinese Central government introduced a Six Year Suppression Plan, providing the death penalty for manufacturers, traffickers and addicts. Generalissimo Chiang soon nullified this suppression plan by adding to it a revenue-yielding opium monopoly. This policy fell into line with the Japanese plans for taking over China. The Japanese promoted opium addiction among the Chinese by making available cheap contraband opium. They also directly and indirectly supported various war lords who maintained opium monopolies in their areas.

Thus, in spite of laws and edicts, opium addiction continues on as the great curse of China. Some "authorities" will probably question the statement that, today, in southern Yunnan, over one-third of the adult population are opium smokers.

This author visited dozens of Yunnanese towns and villages and therefore can speak with a fair degree of certainty. The former governor of Yunnan, the notorious "One-Eyed Dragon", Lung Yun and his family have been leaders in the opium trade in southwest China for several decades. Some of the opium is home grown, some comes from the Gulf of Tonkin by way of French Indo-China, but the bulk of the opium is brought in overland from Burma.

During the summer of 1944, travelling with a surgical unit attached to the Chinese army close to Tengchung (Teng-yueh), we heard of many instances of opium importation from Burma and the opium affairs of the former mayor of Tengchung. In one village adjacent to our unit there were four opium dens, frequented by Chinese soldiers as well as civilians. The leading officials, scholars and business men of the area were all opium smokers. In the temple compound alongside our hospital were located the offices of the district magistrate. All eight of the clerks and officials in that office were addicts.

## Varieties Of Opium

Most of the opium smokers encountered were "moderate" smokers. That is, they smoked only two or three pipes a day, amounting to about 6 or 7 grams of opium. The wealthier used chandoo or prepared opium while the majority used dross opium extract.

Prepared opium is made by a lengthy process of boiling the opium juice in a vat, evaporating it, then beating, followed by a peculiar toasting process. Then there is more boiling, straining, evaporating, filtering and further evaporating to yield a black treacly substance with the characteristic sweet opium odor. Dross opium extract is prepared by boiling together yin-yin (seconds) or yin-she (opium dross).

These are residues from smoking chandoo and residues from smoking dross opium extract. Chandoo contains about 8 percent morphine and dross opium extract about 7 percent. The smoke from 100 grams of chandoo yields about 0.1 grams of morphine, (Dent). Dross opium extract has a stronger effect, perhaps because of pyridine bases, ammonia and hydrocyanic acid.

In Yunnan, in 1945, the cost of a pipeful of opium was equivalent to 25 to 50 cents American money. At that time the monthly wage of a private in the Chinese army was equivalent to 30 cents our money. Opium addiction was often related to crime, prostitution and various depravities. Among the officials, opium was often the factor behind inefficiency, time-wasting and corruption. It is with good reason that the Chinese use the proverb, "No flesh, no strength, no money".

They refer to addicts as ya pien kuie tze (opium devils). Cures are not difficult but facilities are inadequate and permanent cures unusual.

Many addicts take "anti-opium" pills. These are made of dross opium mixed with rice or paste base and some flavor. They serve only to stave off the craving for smoking. Many of the opium smokers are also morphine addicts. Probably the thousands of packages of morphine syrettes that "disappeared" in China went to serve this purpose.

### Opium-Addiction Symptoms

The moderate smokers, especially when they have ample food, show surprisingly little mental or physical deterioration. Most of them did show marked leanness, leaden pallor and poor appetite. The heavier smokers usually developed irritability, restlessness and general depression. They often showed dilated irregular pupils and had recurrent diarrheas. They stated that the craving produced unpleasant aches and pains. To some addicts opium acts as a mild stimulant producing increased mental and physical activity.

Mention should be made of the frequent association of tuberculosis with opium addiction. As a matter of fact, opium smoking is a recommended treatment for tuberculosis in China. It retards the metabolic processes, "leads gradually to a loss of excess energy and driving power, to an increase of equanimity and to a reduction of the intensity of many emotions." (6)

Of course, the "cure" is worse than the disease. Snapper (7) and others have called attention to the frequency of suicides by opium ingestion. The acute opium poisoning is difficult to treat because of the rapid respiratory depression, the frequency of coma and apnea with gastric lavage and the common aftermaths of bronchopneumonia and lung abscess.

### Smoking Technique

Foreigners may have introduced opium smoking into China but the Chinese developed it into a real art. The first pipes used for smoking the tobacco-opium mixtures, were simple short bamboo pipes. The recent form of opium pipe was invented in Kwangtung province about 1875. There are many elaborate pipes with silver bands exhibiting insets of jade and other precious stones.

The opium smoking ceremony is rather elaborate. The smoker lies on his side on a couch with a low table beside him. On this table is the opium-tray, on which are the pipe, pipe bowls, opium-lamp and several other instruments.

He first takes a long needle-like wire (yen) and puts the sharp end into the opium container. He twists it around so that a small piece adheres to the tip. He then warms it carefully over the flame of a lamp. He dips it again into the opium jar, twists it round and round until the requisite quantity adheres, alternately warming it over the flame and pressing it on the flat bowl of the pipe, turning it over and over and working it carefully on the end of the wire.

By the evaporation of some of the water the opium swells up into a light porous mass about the size of a grain of rice. The point of the wire is then inserted into the round hole in the pipe, and by twirling the wire around while withdrawing it, the opium is deposited in the bowl of the pipe. The bowl is then held over the lamp, the stem of the pipe being applied to the lips, and the heat of the flame is drawn over into the opium converting all the volatile material in the bolus.

The heat causes the opium to frizzle and the smoker takes three or four long inhalations which are exhaled through both the mouth and the nose. Following his smoke, the addict usually falls into deep sleep for about a half hour . . . his escape from the world of harsh realities and miseries.

### Discussion

In this paper we have discussed the origin of opium and the route by which it has reached China; the development of opium smoking in China; the failure of attempts to control opium; the preparation of opium, smoking technique, and addiction symptoms.

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1200 N. State Street

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*Hebra's disease!* He was the first to describe Impetigo herpetiformis, Prurigo ferox (Hebra's disease) and Lichen rubra, or pityriasis rubra, also known as Hebra's pityriasis. Lupus disseminatus is another disease linked with Hebra's name. Rhinoscleroma was first described by Hebra, as well as Acne cacheticorum follicularis, or lichen scrofulosorum. Hebra, under the influence of Rokitansky (1804-1878), founder of pathological anatomy, applied the general principles of pathology to skin diseases. Hebra died in 1880.

* * *

A short time after the first steam boat crossed the Atlantic, *Bayle's disease* was named. Antoine Bayle was born in France in 1799. He was a distinguished physician and an extraordinary pathologist. He was responsible for a number of studies, and *General Paresis* is named after him. He died in Paris, 1858.

Cancerous ulcer of the leg is known as *Marjolin's ulcer,* after Jean Nicoles Marjolin, a Frenchman, born in 1780. He was a professor of pathology and an eminent practitioner. He died in 1850.

# Editorials

## A New Journal

Vol. I No. I of the *Journal of the History of Medicine* has just come to this desk. It is a new venture in publications of this sort in the United States insofar as memory serves at the moment.

Europe has been well served in this regard for a long time past, but in this, a "relatively new" country most of us at least, have not been greatly minded toward the past. In fact, it would seem that we are only just beginning to have anything like "traditions" in medicine. These, one assumes begin with and rest largely upon the biographies of great men and their doings.

Doubtless we have had many such as, Holmes, for example, but his literary proclivities unfortunately far outshone his reputation as physician, anatomist, and even as investigator of the bacterial origin of puerperal fever. Osler, Halsted, Murphy, the Mayos, Welch, and a few others have passed from the active scene too recently to become apotheosized, but time will soon begin to bring the flavor of antiquity to them, and make their names immortal.

It may be that Mr. Henry Schuman whose workshop is in New York City, has foreseen the future historical significance of our worthy men of medicine, for he has launched this expensive-looking journal in de luxe form. In paper, printing, binding and general format, it is the best, and will compare most favorably with any other periodical in any other field.

Assuming, perhaps, that a history of medicine in the title might seem to limit the field too sharply, Mr. Schuman has added, *And Allied Sciences.* This gives at least scope to the endeavor, and makes it possible to "borrow" material, if that should fall short in a volume of more than 180 pages. It is interesting to note that there are only some seven pages of advertising, most of it concerning books—old and rare books at that! Pharmaceutical houses are represented by Wyeth of Philadelphia, and Mead Johnson of Evansville, Ind.

The "scope" as declared on the inside cover is that "relating to all aspects of the history of medicine, public health, dentistry, nursing, pharmacy, veterinary medicine, and the various sciences that impinge on medicine." Therefore, the outlook is very broad, and is not confined to America alone. This view is supported by the titles of various essays, for example "Some Galenic and Animal Sources of Vesalius", by Charles Singer. He is one of the world's foremost historians of medicine whose many books in the field are universally recognized as the most authoritative of their kind.

We must confess that we have not thought frequently or intensively upon the life and times of Vesalius or Galen since undergraduate days in medical school. Even then, they seemed to be mere relics of a dim and dusty past without much significance. All the more reason, perhaps, for having them brought to mind now, since they were certainly fathers of medicine and in turn paved the way for us—neophytes in an enormously expanded field.

There is also an article on "The London Years of Benjamin Waterhouse," American Quaker, who left these shores just before we met trouble with England and did not return until matters were fairly on the way to a "just and lasting peace." Waterhouse was "great" in his own way and time, and had every advantage to obtain both knowledge and culture which the Old World offered at that time. He made good there, and also in this country upon his return.

There is also a "Note on William Blake and John Hunter", running some five pages long, written by Dr. Jane M. Oppenheimer of the department of biology, Bryn Mawr. Dentistry receives recognition in the article by Curt Proskauer, D.D.S., a leading historian of dentistry, who writes in scholarly fashion concerning "The Two Earliest Dentistry Woodcuts", and he reproduces the cuts with legends and descriptive matter in Old German.

Phyllis Allen formerly in the history department, Rochester University, and who is now studying American medical history, University of Pennsylvania, discourse in 28 pages upon "Medical Education in 17th Century England." One should always be surprised when reading an article of this kind to note the intellectual depth, the perspicacity, the acute powers of observation which these long-forgotten worthies exhibited in their lives, thoughts, and daily endeavors.

These qualities always lead one to ask himself how much the human brain (and mind which is a function thereof) has grown and improved during the long years which lie behind our proud 20th century self-appreciation.

For many years the New York Academy of Medicine has had a Section on Historical and Cultural Medicine, and during each year those among us who are historically minded have read "papers"

and joined in discussion which has often been preceded by a good dinner at one of the Clubs more or less exclusive in the upper reaches of Manhattan. These essays have been published in the *Bulletin* of the Academy. It strikes us that with Mr. Schuman's excellent, one might say beautiful new journal at hand, publication of section papers might well be directed toward this special journal with an eye to permanency of the record.

Subscriptions are to be sent to the offices of the *Journal,* 20 East 70th Street, N. Y. accompanied by a cheque for $7.50. Single copies are $2.50. Quarterly publication is planned. The MEDICAL RECORD is happy to extend the hand of fellowship to this newcomer in a field which is not overcrowded.

## The American Academy Of General Practice

During June 1947, a number of physicians met in conference, and after due deliberation, set up a society to be known as "American Academy of General Practice". The president is Dr. Paul A. Davis of Akron, Ohio. Dr. E. C. Texter of Detroit is vice-president, Dr. U. R. Bryner of Salt Lake City is treasurer, and Mr. Mac F. Cahal of Chicago is general counsel and acting executive secretary. There are nine directors—all of them doctors of medicine.

A letter from the president states that this is one of the most important developments in general medicine in a generation. The general practitioner, through it, will receive the recognition he deserves, and this also applies to the general practitioner of surgery.

The aim is to improve the quality of general medicine and surgery through postgraduate training and "to preserve the right of general practitioners to engage in medical and surgical practice for which they are qualified by training and experience." This latter statement sounds a bit cryptic, since one has assumed that is just what has been going on for some generations past. If not, why not? The several States grant these rights when they issue a certificate to practice medicine and surgery.

As a matter of fact, the interpretation has been such a very broad one that some who were not especially well qualified have used this license to cover any form of treatment of whatever kind of nature. As a result, there have been what the lawyers call "malpractice", and suits in the courts which have not thrown a very kind light on some who have overindulged in self-confidence. Out of such instances, various "Boards" have been set up within the framework of the American Medical Association in order that those who are fitted to do "special work" may be examined, tested, and, if qualified, may be "certificated" in a way to give them proper standing.

However, the purpose here seems different; for "if you are a member of your county society and do not limit yourself to a specialty, you are eligible to apply for membership."

The introduction, which is an explanatory statement of the aims and purposes of the Academy, affirms that "general practice is the backbone of the finest medical system the world has ever known." This seems to be also a rather cryptic utterance which needs further elucidation. Among all the learned professions, few if any have been more highly individualistic than medicine.

Every licensed physician has had a free hand to treat patients according to his training, intelligence and experience. As for "system", here is a word which requires redefining. With such high liberalism one can hardly speak of *system* in the ordinary sense. Moreover, one may question the statement that "General Practice is economically and medically the soundest means of distributing care to the American people." Maybe so, but those who would "socialize" medicine claim the exact opposite, and base their arguments on the alleged fact that poor distribution of doctors, poor equipment, lack of hospital appointments, and the high individualism already mentioned,—all of these call for reorganization, redistribution and regimentation with payment to the doctor for his services as the last and least desideratum!

The matter of Group Practice is mentioned in the "prospectus" of the new Academy, but it is regarded as an infantile movement since "General Practice on a National scale had no voice."

It is made plain too, that the Academy has no official connection with the A. M. A., but it favors membership in that and the county organizations. It "plans to support the A. M. A. in its high ideals, and will also support every other group whose aims are unselfish and for the best interests of individual and public health." Very good, indeed, but it is going to be difficult to eliminate selfishness from human nature whether taken individually or collectively.

There is a considerable group of doctors in our U. S. who, rightly or wrongly, consider the A.M.A. as anything but unselfish. Moreover, they are pretty vociferous about the matter, too.

From the Constitution of the new Academy, one selects the following tenets, all of them praiseworthy: 1. To promote and maintain high standards in the general practice of medicine and surgery.

2. To encourage and assist young men and women to prepare, qualify and establish themselves in general practice. 3. To protect the right of the General Practitioner to engage in medical and surgical procedures for which he is qualified by training and experience. 4. To assist in providing postgraduate study courses, and to encourage participation therein. 5. To advance medical science and private and public health.

A prospective requirement for membership in the new organization is the completion of 150 hours of postgraduate work. It has not been stated whether or not this covers *all* fields of medicine, or if the candidate is expected to specialize. In all instances, consideration is to be given to the aged and to those who have been in military service, with the assumed purpose of offering no hardship.

It becomes evident, and it is so recorded, that the principles as outlined are a "combination of the most desirable features of the leading medical organizations and the American Bar Association. The Constitution will show that it is both efficient and democratic."

The last thing we should wish to do is to appear frigid to the high aims and purposes of this new plan. But it seems to duplicate much that already exists. One asks whether it is aimed at too much arrogance in specialism! This arrogance does exist in spotty areas, but in general, the specialists acknowledge the high and rightful place of honor to the General Practitioner. Most of them once "belonged".

## Health Insurance Plan Explained

Much has been said and written about "Health Insurance Plan", but few physicians have all the facts thoroughly in mind. Therefore, Dr. Willard C. Rappleye, chairman of the board of directors of the Plan in Greater New York, and Dean of P. & S., Columbia University, has made an intensive study of the matter which is reported in the *Journal of the Association of American Medical Colleges,* November, 1947.

There have been many schemes set forth to bring adequate medical care to the greatest number of those who require it; most of these are based on the original conception used in Germany. For 60 years, Europe has worked at the problem, and here in the United States we have had hundreds of *voluntary* sickness insurance plans. Most of these present two difficulties: 1. Unsatisfactory and incomplete medical care; 2. Unsatisfactory conditions of work and payment to doctors.

The German Plan of 1883 called for payment by an employer of one-third, and by the employee, of two-thirds. Family coverage was optional, and an attempt was made to include specialists' fees on a fee-for-service basis. One thousand patients were allowed to each doctor, or 1,350 if the family were included.

Denmark, Switzerland, Sweden, Netherlands, and Great Britain all followed in Germany's footsteps. The latter, in 1900, according to the report of the Commission on the Poor, had a split decision. The majority favored National health insurance; the minority recommended medical care bestowed locally and on a *salary* to physicians.

Since 1911, and up to World War II, services were for general practice only on a capitation basis (9 shillings per insured person per year). Persons per doctor were 2,500, but an average of 1,000 was the rule. Data since the war is not at hand, but there has always been a good deal of dissatisfaction among "panel doctors" in Britain.

In this country, Workmen's Compensation Insurance has done fairly well, but has many limitations and disadvantages. Less than five percent, not in institutions have medical insurance care. Some 27 million of us have some kind of hospital insurance under the Blue Cross Plan, and about 3,000,000 in New York City now have Associated Hospital Service.

Curiously, four percent of the families in the United States bear about 80 percent of actual medical costs. Illness is unevenly distributed. If this were not so, and it were spread over the entire population pro rata, the entire cost of medical care would be small. All insurance is based on the number of people who remain alive and well, and who are willing to pay for those who are not.

The Health Insurance Plan offers all kinds of medical care (including specialists) in hospital, home or office. Emphasis is put upon prevention, early diagnosis, and prompt, adequate treatment. The trend is away from *curative* practice.

It is desirable that the whole plan be set up on a group practice basis which is satisfactory to physician and patient alike. To be effective, an entire family must be eligible for care. Worries over "doctor bills" are to be reduced to a minimum through prepayment, but state regulations require a "flat premium basis". Income ceiling is set at $5,000 for the eligible in order to insure inclusion of supervisory personnel so important in management of the plan, and enlistment of employed persons.

The method of paying the physician on a "capitation basis" is said to be superior to a fee-for-service plan which has always failed in the past "plans".

Groups of physicians may set up their own rates of compensation on a salary or percentage basis if "profiteering" by any member can be abolished. Whatever the method of compensation, the right of a patient to choose his own doctor or to dispense with the services for reason is inalienable. Any physician or group, per contra, must not be denied the right to accept or reject a patient or family for reasons satisfactory to all concerned.

As to the organization of Health Insurance Plan: It is a membership corporation set up under the State Insurance Act with a Board of 24 Directors. One-third of the Board are physicians, one-third are in business, and the final third represent labor and the public. To keep the balance of power where it should be, the Medical Control Board of 15 is made up of five from medical groups, one from the New York Academy of Medicine, five from County societies and one from the Coordinating Council of these societies.

An established proviso is that only employed groups are insurable, and each consists of a spouse and unmarried children under 18. A full group of employees has 25 members, and the insured group must constitute 75 percent of some natural employment unit. An employer must pay not less than one-half premium, and the insured must show some form of hospital insurance.

Benefits of the plan include general medical, surgical, and obstetrical care, laboratory diagnosis, periodic health examinations, preventive medicine, physical- and radio-therapy, professional administrators of blood or plasma, eye refractions, visiting nurse services to the home, if prescribed by the medical group, and ambulance service, when ordered by the doctor.

Exceptions are: Care covered by Workman's Compensation, or any service already arranged for, such as veterans' benefits. Acute alcoholism, tuberculosis, drug addiction, mental or nervous disorders, and chronic illnesses in any institution other than such as offer general medical care, cosmetic and restorative surgery, dentistry, private duty or special duty nursing,—all of these are excluded for obvious reasons.

Annual premium rates for the plan are $29.64 for a single person; $59.28 for a married couple, and $87.00 for a family of three or more. Premium money is used to pay the cost of administration, nursing, and for the occasional patient who is stranded away from home through accident or acute illness. . . . Regulations of the Health Insurance Plan call for one doctor to 800 insured persons, and a medical group must supply all of the kinds of service heretofore mentioned. Net income to physicians is thus said to be satisfactory in most instances.

## VITAMIN THERAPY STUDIED AS GERM KILLER POTENTIAL

Studies being made by Dr. Gregory Shwartzman, Mount Sinai Hospital, N. Y., reveal that irradiated pyridoxamine, a modified vitamin $B_6$, maintains a possible killing action against typhoid, dysentery and other gram-negative germ organisms not affected by penicillin.

Preliminary experiments, made possible by grants-in-aid from the National Vitamin Foundation, N. Y., give evidence that this little known member of the vitamin $B_6$ group irradiated by ultraviolet attacks gram-negative microorganisms. The relationship of this modified vitamin to the unchanged vitamin is also being studied.

The five new grants-in-aid announced by the Foundation have been presented to three hospitals and two universities supporting nutritional and other research projects during the current year. The largest single amount, $10,000, is going to Dr. Shwartzman.

Receiving the second largest grant from the Foundation, Drs. L. J. Goldwater and M. E. Shils, Columbia University School of Public Health, are studying the effect of pantothenic acid, member of the vitamin B complex, on counteracting occupational poisoning. These will be laboratory investigations, and Drs. Goldwater and Shils have expressed the advanced opinion that vitamin therapy should not be considered a better method for control of occupational poisoning than good engineering, but may prove a valuable factor in building up resistance of susceptible individuals.

Already experiments on rats have shown that ability to throw off some poisons is impaired by the absence of pantothenic acid.

Workers in numerous industries are subjected to the threat of occupational poisoning. Included are the munitions industry, when TNT is involved, and also the rubber, synthetic paint and cleaning industries employing such solvents as benzol and carbon tetrochloride.

# MEDICAL ESSAY

## Doctor Chisholm's Ideas

B. LIBER, M.D.
New York, N. Y.

Although psychiatrists in general are correctly regarded as the thinkers of the medical profession, they fail to have a true philosophy about mental illness and to go beyond the individual or close environmental causes of the psychopathic disorders. If you mention poverty, overwork, economic suffering, worry or broad socially inhibiting forces, they tell you that the crisis of 1929 has not increased the number of asylum inmates. Nor do they recognize physical fatigue as a factor in producing mental troubles. "I work fourteen hours a day," says one author in his textbook, "and the effort is exhilarating." War, while accused of provoking temporary neurosis, does not result in permanent disease of the mind. The bombing of England has had no ill effects on the minds of its inhabitants. And so on.

They will permit pulmonary tuberculosis, cardiac and circulatory conditions to be due to obnoxious industrial life, to general unfavorable living and to social causes in addition to personal errors. But their vision regarding mental disturbances is much narrower. Fortunately, there are exceptions among them.

Psychoanalysis, although quite efficient as an explanation, and in spite of its penetration into many fields, remains a limited theory and deals with the person only, with his family constellation and with other segments of his immediate surroundings. It is a worthwhile technique, but, on the whole, it has but little to do with the more distant evils of society or with other national or international influences.

It was, therefore, refreshing to hear a voice coming from the profession and from our specialty which dared to bring in a new note and a challenging idea into our ranks.

Dr. G. B. Chisholm, member of the Canadian Government and well known psychiatrist, has spoken a few times in the United States about the connection between psychiatry and world peace—the last time having been in May, 1947.

He will probably present his theory again at the coming International Congress on Mental Hygiene, which will take place next summer in London and of which he is one of the organizers.

He approaches the question of war and peace in an original manner.

Chisholm believes that the causes of all wars are to be found mainly in the abnormal state of the human mind. In that respect, he agrees with the Preamble of the UNESCO Constitution: "Since wars begin in the minds of men, it is in the minds of men that the defenses of peace must be constructed."

According to him, one of the harmful things is the preponderance of "morality, of the concept of good and evil," which gives rise to "fear and to the feeling of guilt." From this, originates disappointment, frustration, feelings of inferiority, neuroses—consequently, the impossibility to enjoy life, to reason clearly and to construct a convenient world in which we could live in security.

In order to reach the proper improvement of human thinking, we should begin by a correct upbringing of the child, which really means of the parents, a problem into which neither the school nor the State can interfere.

The foundation upon which a universal permanent peace can be based depends on three conditions:

Firstly: Security, the elimination of those causes which give birth to the fear of aggression.

Secondly: The possibility, given to everybody without exception and in the whole world, to live comfortably, and to have equality at all economic levels in the entire population.

Thirdly: That everywhere a majority without neurotic symptoms prevail.

The author calls this majority the "mature" people and he admits that all through human history their number has always been insignificant.

According to Chisholm, child upbringing is the most important world problem and he demands that it be completely changed. We must cease forcing our beliefs and prejudices upon our children. On the contrary, we must present to them all sides of every question, of all facts, and of all ideas, so that they learn to form their personal opinions and that they be enabled to make decisions themselves. This reminds one of Jean-Jacques Rousseau's advice, in his *Emile*, when the time comes for the young man to choose a religion.

He wants the children to accept the responsibility themselves later of the duties of "world citizens" and for that purpose they should be taught "sociology, psychology and psychopathology," of course, in a simplified form, "beginning from the elementary schools and continuing in the secondary schools." These subjects would be preferable to the "specialties, like trigonometry, Latin, and the religions."

Chisholm is not satisfied with the present role of psychiatry, interested as it is in treatment and cure only, which, by the way, are far from perfect. He contends that the aim of psychiatry must be preventive. He compares this suggestion with the change already made in other diseases, like typhoid fever, typhus, smallpox. In reality the problem is the same. There too ignorance, superstitions, "established moral certainties," interfered for a long time with progress and with the suppression of the causes of the trouble. "Social and emotional health is as important as organic health," he says.

Today, the parents can do anything they please with their children, who are defenseless. We are free to indoctrinate them, to make them accept any viewpoint, any lie, or hate, or faith. And Chisholm is convinced that such bad teachings cause "neuroses, behavior irregularities, emotional incapacities and are obstacles against the development of mental maturity."

Psychiatrists must be trained and prepared to deal, not only with individual mental diseases, but also to understand the diseases of human society and to try to prevent them.

Whether he be right or wrong, Chisholm's enthusiasm and sincerity are evident, not only in his theory as such, but also in several great passages included in his lectures on the subject. For instance: "Let us be our own authorities." We know more than our ancestors. We are much more cultured than they. The scholars of our time are certainly not inferior to those of the past, neither regarding knowledge, nor concerning wisdom. In human relations, there is no room for ancient authoritative dogmas. Let us reject the ideas which have drugged us for so long and have made us obedient to the past! Let us accept our responsibility to reconstruct humanity according to new and bolder, clearer and more honest, projects! Let us cease to prostitute to the feelings of "guilt, of fear, and of shame that which is man's noblest and highest, his intellect"!

But in those beautiful thoughts there are defects:

In his introductory paragraphs, where the social development is historically outlined, the greatest revolutions are ignored. The contemporary Russian revolution, which, whether one likes it or not, is surely not one of the small events, is not mentioned at all. This is curious for a writer who tries to embrace a problem of this magnitude.

In his zeal, he does not give the impression that he considers the immense, and—at least for the present—almost impossible task to change the attitude of the parents toward their children. Most of the parents still think that they are more or less the creators of their offspring and are not aware that they are only the tools.

Although dreaming of an economic equality, which places him among the superior minority of the psychiatrists, he still does not seem to be convinced that equality of opportunity is really the basis of all fundamental changes in society. He would rather start his reform, which is itself quite a revolution, by a re-education of the educators and by assigning to psychiatry a gigantic preventive role only.

He also seems to disregard the fact that even for the most "mature" individuals, groups and peoples, it is difficult or impossible to interfere with the mentally abnormal persons or nations, if the latter will provoke wars. There are and there will be moments when even the best pacifists are and will be forced to reply with weapons. An abnormal but powerful minority is stronger than a normal and peaceful majority. One armed man can subdue a thousand unarmed men.

As a whole, this invitation to the psychiatrists to wake up and take part in the great new struggle to rebuild the world, is more than a splendid gesture: it is a great work.

65 West 95th Street

## Dr. Van Riper Announces Plans For First International Poliomyelitis Conference

Dr. Hart E. Van Riper, medical director of the National Foundation for Infantile Paralysis, general chairman of the conference reports that the subjects for the sessions of the First International Poliomyelitis Conference to be held at the Waldorf-Astoria hotel, N. Y., July 12 to 17, "were selected to give the most complete discussions possible on research on the disease and methods of treatment approved by recognized medical standards."

Each of the presiding officers will be assisted by a panel composed of international authorities who have done special work on particular phases of the problem. Papers on polio will be presented at each session and followed by open discussions.

Summaries of polio problems in other countries will be presented by official delegates who have been invited to represent their governments. Invitations have been extended through the State Department to more than 60 nations. In addition some 20 other medical and scientific authorities from abroad will participate in the program.

Delegates to the conference will be divided into three categories including the official government delegates; institutional delegates representing invited universities, societies and scientific and philanthropic organizations interested in research and treatment of virus diseases, and member delegates. The last group will include physicians and other scientific and professional persons qualified by recognized standards. A preliminary announcement bulletin outlining plans for the conference is being sent to recognized professional persons inviting them to attend as member delegates.

Dr. Van Riper noted that "work must be done on an international scale to reach a higher degree of comparability of all problems presented by the disease, its treatment and research.

"Collection of local detailed epidemiological and immuniological studies from all parts of the world and correlation of such studies has never been accomplished on the necessary scale before," he said.

"It is planned that this conference will serve as a means of expediting distribution of vital knowledge on a worldwide basis.

"The first response from medical and scientific authorities in all countries who have been invited to participate in the program has been outstanding. Many in this country and abroad have declared that the problem has become so serious that poliomyelitis must be considered on an international basis with complete pooling now and in the future of all information available."

# LETTER FROM BRITAIN

*(From Our Own Correspondent)*

### University of London

Dr. G. M. Frizelle has been appointed assistant dean of the London School of Hygiene and Tropical Medicine. Dr. Frizelle graduated M. B. with honors at Queen's University, Belfast in 1926 and M. D. four years later. He held several important appointments.

Dr. Frizelle served in the last war in North Africa, Sicily and Italy, and he was promoted to colonel in 1945. In the following year he became director of the public health subcommission of Allied Commission in Italy. Afterwards he joined the UNRRA Italian mission as deputy director of health and was later appointed the first chief of the World Health Organization Interim Commission's mission to Italy.

### Australian Medical Congress

This Congress will meet in Perth Western Australia for the first time since the war. There will be the following sections: medicine; surgery; naval, military and air force medicine and surgery; obstetrics and gynecology; pediatrics; ophthalmology; otorhinolaryngology; public health, tuberculosis and tropical medicine; anesthesia, pathology, bacteriology and biochemistry; orthopedics and physical medicine; neurology and psychiatry. Tuberculosis is to be considered closely in the plenary session.

Perth is the chief town in Western Australia, a province teeming with potential agricultural land and pasture and full of splendid timber. It is a land asking to be developed.

### Cancellation of Medical School Dinners

Due to the austerity regime, largely owing to the shortage of food introduced by the Government, the Royal College of Physicians had to cancel the Harveian dinner. For similar reasons the Middlesex Hospital Medical School cancelled the school's annual dinner.

### Osler Club in London

The Osler Club of London, founded in 1925 and in abeyance owing to the war, is to be revived. The Club was founded to keep the memory of Sir William Osler green and to encourage medical students to link the history of their art with their professional work which was the case with Sir William Osler.

### Care of Old People

The public conscience in this country is aroused in regard to situation of its old inhabitants which in many instances is calling for attention. The governors of the National Corporation for the Care of Old People held its first meeting of governors recently under the presidency of Sir George Wilkinson.

At this above meeting it was decided to appoint an advisory council to make recommendations on the policy and activities of the corporation and to examine all applications for grant-aid. This is an urgent problem in Britain where the old and elderly preponderate unduly, while many of these are indigent, sick and infirm.

Steps have been taken in some parts of the country to relieve some immediate necessities and to help such old people to live in comfortable surroundings; to have sufficient nourishing food, warmth; to have medical attention when ill, and above all to be nursed properly.

In many cases this is an ideal which cannot be reached as many of these suggested stipulations are practically almost unobtainable. However, ventilation of the needs of the old should have a generous response.

### Guests Are Honored by the British Association of Dermatology and Syphilology

At this dinner Professor Pautrier spoke of the emotions which filled the hearts of the guests of the British medical profession from other lands, being in London again, to look upon the battered city on the resistance of which their faith had been fixed in the desperate years of bombing attacks; to meet again their old friends and colleagues; to see and hear Winston Churchill.

### Travelling Fellowships in Medicine

The Medical Research Council announce that they have awarded Rockefeller fellowships for 1947-1948 to the following:

K. R. Hull, M. D., Lond., lecturer in pathology, King's College Medical School, Durham University and assistant pathologist, Royal Victoria Infirmary, Newcastle.

J. J. P. James, M. S., Lond., F. R. C. S., assistant surgeon, Royal National Orthopedic Hospital, London.

H. N. Munroe, M. B., Glasgow, senior lecturer in physiological chemistry, Glasgow University.

J. E. Richardson, M. S., Lond., F. R. C. S., surgical first assistant, London Hospital.

Harold Scarborough, M. B., Ph. D., Edin., Beit fellow, medical unit, St. Mary's Hospital, London.

Sheila P. V. Sherlock, M. D., Edin., M. R. C. P., Beit fellow and assistant lecturer, department of medicine, Postgraduate Medical School of London.

Honor V. Smith, M. B., Lond., research assistant, departments of neurosurgery and neurology, Radcliffe Infirmary, Oxford.

The Council have also awarded Dorothy Temple Cross fellowships in tuberculosis to the following:

A. G. Heppleston, M. B., Manchester, M. R. C. P., assistant lecturer in pathology, Welsh School of Medicine, Cardiff.

Doreen Nightingale, M. S., Lond., F. R. C. S., first assistant surgical unit, University College Hospital, London.

J. R. Sinton, M. B., Lond., M. R. C. P., late medical first assistant, London Hospital annex, Brentwood.

# Book Reviews

## Woman's Industrial Role

*Women in Industry—Their Health and Efficiency*: By ANNA M. BAETJER, Sc. D., assistant professor of physiological hygiene, School of Hygiene and Public Health, The Johns Hopkins University. Issued under the auspices of the division of medical sciences and the division of engineering and industrial research of the National Research Council. Philadelphia and London: W. B. Saunders Co., 1946. Pp. xi + 344. Price $4.00.

In 1942 the limited availability of man-power brought the problem of the utilization of women to the fore. Since large numbers of women would be employed in Army industrial plants, the Army decided to conduct an exhaustive critical survey of the literature in order to obtain information on the utilization of woman-power and to determine if this had a sound physiological basis.

The doctor to whom this volume would be of most interest is the industrial physician. It is he who must judge the capacity and physical fitness of the employee to fill the job; he must judge whether the employee can hold the job without endangering health. It is also important that the doctor warn the employee of occupational diseases and risks which might result in litigation if the employee is not so warned.

Although most of the discussions on *Women in Industry* have been repetitious of certain more or less generally accepted views on the subject without examination of the evidence on which these views are based, this volume has presented sufficient evidence upon which to base conclusions. Some of the points brought out are: For maximum production the machines should be readjusted to the strength and size of the woman operator; the employment of heavy women is advantageous only if they can utilize their weight on their jobs; the fact that women are less strong than men doesn't necessarily imply that they will become fatigued more easily—except in jobs requiring heavy physical labor; properly trained women are capable of performing almost any type of work which does not require excessive muscular effort.

Women are ill more frequently and lose more time from work because of sickness, but their absences are shorter. The chief causes were: respiratory diseases—50 percent, and digestive diseases—20 percent. Both acute and chronic diseases were more prevalent in women. The reason for this is not clear.

The excess frequency rate of absence may be due merely to the fact that women take their minor illnesses more seriously than men do and perhaps they may have a less serious attitude toward their work.

Because women have a higher rate of sick absenteeism than men, industrial physicians should give them more careful prophylactic care. However, there is no reliable evidence that women are more susceptible to occupational diseases than men.

An interesting section is devoted to gynecological and obstetrical problems associated with women workers. Questions of how late a pregnant woman should work, the type of work she should do, the relation of work to spontaneous abortion, the effect of labor on menstruation and fertility are studied and discussed.

This book is an important reference source for those interested in this new and weighty subject.

## Endocrinology Fundamentals

*Essentials of Endocrinology*: By ARTHUR GROLLMAN, M. D., professor of medicine and chairman of the department of experimental medicine, The Southwestern Medical College; attending physician and consultant in endocrinology, The Parkland Hospital, Dallas, Tex. Second edition, revised and enlarged. With 132 illustrations. Philadelphia, London and Montreal: J. B. Lippincott Co., 1947. Pp. xxiii + 644. Price $10.00.

The author reveals that while the basic concepts of endocrinology have not been appreciably altered, the approach is now from an angle of "pure science" rather than strictly from a clinical standpoint. "Only those clinical aspects which are based on sound scientific observation retain their validity."

Purely imaginative and hypothetical phases of this deep-seated subject have passed into the discard. It is asserted that we now have *the facts* concerning the endocrines, both in health and disease, upon which we can plan our therapy.

Under each gland heading, thyroid etc. the anatomy, physiology and pathology are described, and the symptoms derived from disordered states are set forth. Practitioners will be pleased to have differential diagnoses set up upon which they can base rational therapy. This is in the interest of the patient, and brings us more nearly to a standard plan of procedures than was true of much guesswork heretofore.

Tables on the inside cover of the book, fore and aft, give the names of some commercially available products obtained from the adrenals, medulla, parathyroids, the anterior and posterior pituitaries, the thyroid, and the various sex hormones derived from the ovary, testis, corpus luteum, and placenta. This book provides a quick reference and daily usefulness.

## Ophthalmology Text

*Gifford's Textbook of Ophthalmology*: By FRANCIS H. ADLER, M. D., professor of ophthalmology, University of Pennsylvania Medical School. Fourth edition. 310 illustrations. Philadelphia and London: W. B. Saunders Co., 1947. Pp. 512. Price. $6.00.

This is not a book for the specialist, even if he might enjoy looking it over. It is for the physician and for the earnest medical student. The author, with this end in view, has avoided the highly technical and controversial topics but has given the pragmatic essentials of the various medical and surgical phases of ophthalmology.

Gifford also, and this is to be commended, stresses the relationships found of the eye to neurological and general medical conditions.

The entire subject matter, medical, surgical and neurological is presented from a completely modern point of view. The printing and illustrations are a credit to fine craftsmanship.

## New Edition of May's Manual

*May's Manual of Diseases of the Eye*: Edited by Charles A. Perera, M. D., assistant clinical professor, College of Physicians and Surgeons, Columbia University, New York; assistant attending ophthalmologist, Presbyterian Hospital, New York. Ninth edition. 387 illustrations. Baltimore, Md.: The Williams and Wilkins Co., 1947. Pp. viii + 521. Price $4.00.

There are enough new findings that are of importance to the practising physician to warrant this new edition of this highly popular text on ophthalmology. Among these we can mention Penicillin therapy, newer theories on color vision, thyrotropic and toxic exophthalmos, congenital cataract and ocular brucellosis.

There are other revisions and changes in the text and drawings. All in all, the book is thoroughly up to date and reliable.

## Endotracheal Anaesthesia

*Endotracheal Anaesthesia*: By Noel A. Gillespie, M. D., D. M., M. A., B. Ch., associate professor of anaesthesia, University of Wisconsin. Second edition, revised and enlarged. Illustrated. Madison, Wisc.: The University of Wisconsin Press, 1948. Pp. xvii + 237. Price $4.00.

Dr. Gillespie has been a resident anaesthetist to the London Hospital, and has served in Walthamstow and Shadwell. He holds degrees from Oxford, and is a fellow of the Royal Surgical Society of England. We understand that he is now research associate and resident in Anaesthesia at the University of Wisconsin and is associated with the State of Wisconsin General Hospital.

The doctor's background and training, therefore, is definitely British, but he gives credit to all Americans who have worked in this field.

The first edition of this book was published in 1946 in Wisconsin. The history of intratracheal procedures seems to go back to Vesalius in 1543! It has come down to us through British, French and German workers.

Macewen in Glasgow, in 1880 is the father of our modern concept of endotracheal intubation for anaesthesia. He removed a malignant growth from the base of the tongue after placing a metal tube through the mouth into the trachea *by the sense of touch.* Gauze packing was then placed around and above the tube, and the operation proceeded to successful completion by insufflation of chloroform.

Jackson, Flagg and many others have developed the method in the United States. The advantages are: Freedom of airway; control of intrapulmonic pressure; and artificial ventilation. The disadvantages are all mechanical and are due chiefly to lack of skill and experience (trauma).

Inducing narcosis is not the only use for an intratracheal tube. It is valuable in asphyxia due to edema of the glottis or to spasm; for removal of membrane and viscid secretions which threaten life; for the removal of foreign bodies by suction, and for instillations of lipiodol.

The value of this book is to prepare the reader for his first experience under the guiding hand of an "expert". Preliminary work on the cadaver is a *sine qua non.* Then observation only, assistance to a laryngoscopist, and finally "solo" with the "expert" standing by. The procedure is being taught to house officers in nearly all great hospitals in this country at the present time. It is a most valuable adjunct to their training.

## Gynecological Pathology

*Gynecological and Obstetrical Pathology—With Clinical and Endocrine Relations*: By Emil Novak, M. D., associate in gynecology, The Johns Hopkins Medical School. Second edition. With 542 illustrations, 15 in color. Philadelphia and London: W. B. Saunders Co., 1947. Pp. xiii + 570. Price $7.50

The size of this edition over the previous one has been increased chiefly by the addition of well over 100 new illustrations, many if not most of which have to do with microscopy of the pelvic tissues.

This is not intended to be an exhaustive encyclopedia of the female organs and their behavior, both under normal and pathologic conditions. The author has his own ideas about that, and is well satisfied if he finds that he has presented enough material to be of daily service to the practitioner, clinician and pathologist.

The cycle of menstruation, pregnancy, gestation, delivery, involution, and normal return to menstruation is one which is intimately related to the influence of endocrines and hormones upon the physiology of the entire female body. Both a woman's mental and physical reactions are frequently based upon deviations in her physiology from what we call "normal".

It is the province of the gynecologist to study these variations, to combat them by medical and surgical means or otherwise as conditions require, and to restore both the pelvic and the general health to the degree where a woman leads a normal happy life. This is a big undertaking, but the author does not hesitate to go through with it, and also to make it possible for other physicians to do the same.

That, it seems to this reviewer, is—or should be the aim and substance of practitioners in other fields as well; namely, to determine the causes of disease and to apply the remedy which can bring the patient back to the greatest possible degree of health and happiness. From that viewpoint, Dr. Novak's contribution to gynecology is a very genuine and helpful one.

## Bacteriology

*A Textbook of Bacteriology.* By Thurman B. Rice, A. M., M. D., professor of bacteriology and public health, Indiana University School of Medicine. Fourth edition. 126 illustrations. Philadelphia, Pa.: W. B. Saunders Co., 1947. Pp. 603. Price $6.50.

During the 12 years which have elapsed since Rice's first edition appeared, bacteriology has grown by leaps and bounds. It is certainly one of the most important of all specialties, and the author in

this fourth edition writing in a simple, easy style, brings a practical, comprehensive text to the support of diagnosis, prognosis, treatment and management.

Particular attention is given to "the newer drugs", but since this phase of medicine is still in a state of flux, nothing final can be set down at this time. Not too much is told of "techniques"; for these are readily found both in periodicals and laboratory guides, but such chapters as, "How the Body Resists Disease," the "Destruction of Bacteria" (by physical and chemical means), the biology of germs including the life history of various cocci and bacilli, the spore-bearing anerobes, the protozoa, and as much as is now known about viruses,—all contribute greatly to everyday medicine in whatever special field one is working.

Penicillin and the group of streptomycin derivatives are discussed historically and clinically with complete satisfaction. Concerning the former, the point is made that thousands of thoughtless bacteriologists threw away "contaminated plates" over many years, entirely unaware of what they were doing. Not until Fleming and later Florey with great perspicacity, emphasized the importance of setting germs against each other in battle, did the value of antibiotics become evident.

Note is made of the possible synthetic manufacture of these "antis", thus cheapening the considerable cost of the "natural process", and making the drugs more available in clinical medicine generally. But these "miracle drugs" may suffer from improper usage, from being applied where they cannot possibly be of value, from overenthusiasm.

"A medical generation" will probably be required for development and true appraisal of this new weapon . . . Chemistry and biology have never served mankind better . . . they must be maintained.

## ENT Textbook

*Textbook of the Ear, Nose and Throat.* By FRANCIS L. LEDERER, B. Sc., M. D., F. A. C. S., professor and head of Department of Otolaryngology, University of Illinois College of Medicine, Chicago; chief of the Otolaryngological Service, Research and Educational Hospital; captain, Medical Corps, United States Naval Reserve; ABRAHAM R. HOLLENDER, M. Sc., M. D., F. A. C. S., professor of otolaryngology, emeritus, University of Illinois College of Medicine, Chicago; attending otolaryngologist, St. Francis Hospital, Miami Beach, Florida. 182 illustrations. Second edition. Philadelphia, Pa.: F. A. Davis Co., 1947. Pp. xi + 596. Price $10.00.

In the preface to the first edition it is stated by the authors, that inasmuch as the number of hours which can be devoted to teaching this specialty to medical students is quite limited, "A suitable textbook to supplement lectures and quizzes is needed". The so-called "compend" is considered inadequate, and the aim is to "furnish a text which will prove satisfactory to instructor and student."

Whether this high aim has been met must be left to the student-reader in this second edition—the preface to which states, that the fundamentals of the first edition remain the same, and that the changes which have been made propose to keep up with the "advances" brought about by World War II and the passing of time. However, it is extremely difficult to decide what should go into a book of this kind, and what may be excluded.

The authors devote six pages to allergy, but these seem to be sketchy and insufficient, since one sees so much of allergy in general practice into which students are about to enter. For example, nothing is said about the *psychomatic* aspects of this condition,—in fact this new concept seems not to be mentioned in the book, but is now considered basic in many so-called "neuroses" such as angioneurotic edema and "hyperesthetic rhinitis." This might well be considered an "advance". On the other hand, one might feel that too much is said concerning labyrinthitis which is more completely described than many other texts set up for "specialists", including differential tables. The practitioner needs to know labyrnthitis when he sees it. Then it becomes at once a *special* condition to be managed by an otologist of wide experience.

Nothing but praise can be said for the many figures and plates. They are excellent. One wonders where the authors obtained such a vast amount of "material" inasmuch as "credit" is given to a few only. As a sample of excellent bookmaking, the publishers are to be highly commended. Paper and format are of excellent quality.

## Pediatrics

*Child Health.* Edited by ALAN MONCRIEFF, M. D., F. R. C. P.; WILLIAM A. R. THOMSON, M. D. Published on behalf of The Practitioner, Eyre and Spottiswoode Publishers, 1947.

This English monograph on various aspects of preventive pediatrics is an outgrowth of the National Health Service designed to give greater recognition of children in health as well as in sickness. Each of the articles in the text appeared in the monthly issues of *The Practitioner.*

The task has been well done although the problem of prevention cannot be sharply delineated from the problem of disease. Preventive medicine as applied to children includes not only measures adapted for the complete care of the healthy child but also the task of preventing minor maladies from becoming major illnesses. Moreover there are certain diseases of childhood such as rheumatism and tuberculosis in which the social implication involves much of the machinery of local health authorities. These disorders necessitate a wide knowledge of these services and methods of applying them to the individual child.

The text, of course, is geared to the English system of child health service as part of socialized medicine. It does not apply to American ways of pediatric practice. There are chapters on child welfare centers, child nursery schools, toddlers clinics, day nurseries, school health examinations, handicapped children, residential schools, guidance clinics and venereal disease services.

The book is designed to stimulate the general practitioner in child health for the improvement and preservation of national well-being.

# SURGICAL DIGEST

By RICHARD A. LEONARDO, M. D.
Rochester, N. Y.

**Radiation Injury of the Stomach** Radiation to the stomach is not without its ill effects, as shown by Bowers and Brick who recently reported six cases that required subsequent surgery. Perforation of radiation-induced ulcers is one of the biggest dangers that confronts these patients.

**Anserina Bursitis** When horsemen present a chronic, low-grade and painful swelling on the inner aspect of the knees, this condition should be considered. It must be differentiated from chronic arthritis. Conservative treatment plus aspiration is indicated for the acute exaccerbations; chronic, or complicated cases recurring frequently should be totally excised.

**The Cancer Problem** In an excellent article on this subject in a recent issue of the *Jour. Am. Med. Assn.,* Professor Morton of Rochester, New York, explains that cancer is not inherited nor is it contagious, so far as present evidence indicates, and that we can so instruct our patients. But when they ask us if we can do something to absolutely protect them from this hazard, our reply must necessarily be in the negative. We can, and should, of course, instruct our patients so that they will ever be on the lookout for the "danger signals" of this disease—the appearance of tumors, abnormal bowel movements, etc.; and we can emphasize to our patients the value of a thorough periodic health examination, once or twice each year.

**Cancer of the Lung** A. A. Santas found only seven cases in women of a total of 350 cases of pulmonary cancer. He thinks this low incidence in women is due to certain hormones which protect the lung against carcinogenic agents. This explanation seems a poor one to me, especially when the sex hormones are even suspected of causing or aggravating malignant states. There is a great need to know more about the prevalence of smoking among women in Santas' region of the World (South America). It may be that few women smoke there and that in itself may be the explanation of the decreased incidence of pulmonary cancer among females there.

**Infections after Herniotomy** If the skin and subcutaneous tissues are unduly separated from the aponeurosis of the external oblique, then interference with the lymph drainage from this region results. This is followed by localized edema and the collection of serum. Secondary infection and wound disruption may follow as a natural course.

**Parkinsonism and Surgery** Some people are under the impression that we can now cure this disease by surgery. This is only partially true. We must select our cases. Young adults with a unilateral tremor and rigidity that does not respond to medical treatment can often be greatly improved by severing some of the fibres in the internal capsule of the brain, under local anesthesia. This cutting interrupts the arc of an abnormal neural mechanism and affords prompt symptomatic relief. Such operated patients overcome their former psychological feelings of inferiority and once again become useful members of society. The operation is, therefore, well worthwhile in selected cases.

**Anal Sphincter Repair** Occasionally, the anal sphincter muscle is damaged in an accident or following surgery. Alloy steel sutures have proven very valuable in the surgical repair of such lesions.

**Vagotomy and gastric ulcers** According to Harper and Dragstedt, vagotomy will also give "good" results in the treatment of gastric ulcer, if you can be sure it is benign. If an active duodenal ulcer co-exists he feels you can be sure the gastric ulcer is benign and you will be right 99 times out of a hundred. However, he admits that otherwise as high as 20 percent of the gastric ulcers may be malignant. In such cases, vagotomy is not the proper operation even if it is true, as the authors state, that the side-effects of section of the vagus nerve are transitory (diarrhea and delayed emptying of the stomach). Personally, the operation of subtotal gastrectomy is so simple, in competent hands, that this doctor disagrees with the authors and will state positively that gastrectomy is the only operation in which the surgeon should consider when called upon to treat a chronic and medically-resistant gastric ulcer. The potentiality of gastric malignancy is too great to permit us to experiment in such cases.

**Besnier-Boeck's Disease (Generalized Sarcoidosis)** Four members of one family had diffuse lesions of the above disease plus undisputable evidence of tuberculosis. In each, these two diseases occurred in such varied combinations that the author, Dr. F. M. J. Struyvenberg, feels it logical to assume that they are due to the same organism. This assumption has been repeatedly stated by other authors also, but so far no one has definitely proven its validity.

**Intrathoracic Aneurysms** O. A. Abbott controlled 14 such cases by wrapping *Polythene cellophane (PT 300)* around each aneurysm. Thereby, pain was diminished and the further growth of dilitation of the aneurysm prevented. The procedure seems well worthy of further trial and is especially indicated when the condition appears to be unresectable.

# MEDICAL RECORD

**A National Review of Medicine and Surgery, Established 1843**

FORMERLY KNOWN AS THE MEDICAL JOURNAL AND RECORD

PUBLISHED MONTHLY BY

THE MEDICAL JOURNAL AND RECORD PUB. CO., INC.

Editorial and Executive Offices: 215 Fourth Avenue, New York 3, N. Y.
Office of Publication: 307 Main Street, Kutztown, Pennsylvania.

GREGORY STRAGNELL, M.D.....*Editor*
ELEANOR S. MORE ..... *Assistant Editor*

Subscription Price: Under Domestic Postage, $4 Yearly; Under Foreign Postage, $4.75 Yearly; Single Copies, 40 cents.

Remittance should be made by New York Exchange, post office, or express money order, payable to The Medical Journal and Record Publishing Company, Inc., or by registered mail, as the publishers are not responsible for money sent by unregistered mail. Remittances from Foreign Countries should be made with International Money Orders.

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*Bibliographies* should follow the style of the Quarterly Cumulative Index Medicus of the American Medical Association, and should give name of author, title of article, name of periodical, with volume, page, month, day of month if weekly, and year.

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APRIL, 1948


## Medicolegal Notes

### "Inguinal Hernia" and "Abdominal Strain" Under New Jersey Compensation Act

On appeal from an award of 2½ percent of partial permanent disability, the New Jersey Supreme Court, McKeon v. Foundation Co., 134 N. J. L. 375, 48 A 2d 218, found that the evidence squarely presented the question of whether an injured workman may recover compensation for a strain in the inguinal region which, while insufficient to bring on a hernia at the time, yet was sufficient to result in a hernia some three or four weeks later.

The injury was sustained when the claimant, along with three fellow employees, was carrying a coil weighing from 250 to 300 pounds and slipped on a railroad track, the weight appearing to fall on him so that he felt a sharp pain in his abdomen. This was later diagnosed by the doctor for the employer as hernia, but on the hearing before the Deputy Compensation Commission, the claim of a hernia was abandoned and the case was tried on the theory of "an abdominal strain".

The New Jersey Compensation Act specifically deals with the subject of inguinal hernia and allows compensation where a hernia results from application of direct force to the abdominal wall, either puncturing it or tearing it. "All other cases will be considered as either congenital or of slow development and not compensable, being a disease rather than an accidental injury," unless certain specified causes or results of the injury are present within a specified time after the occurrence of the hernia. The legislative text for compensability of a hernia is therefore dependent upon conclusive proof of these points, five in number, enumerated and described in the Act, unless the hernia is due to direct trauma. The court gives the legislature's reasons for this legislation in the nature of an inguinal hernia and why inguinal hernia is of common occurrence, leading to the amendment of the Act with reference thereto (N. J. L. A. 34:15 - 12)

The claimant here undoubtedly underwent a strain on March 11, 1944, and a stretching of the muscles of the left groin which enlarged the inguinal canal; but such an injury, the Supreme Court said, is not compensable. The physiological change which then took place was but a single step in the "slow development" mentioned in the statute. The resulting strain of the muscles "was neither a separate and independent injury nor a cumulative disability, but was a step in the development of the hernia which objectively became manifest some three or four weeks later . . . If the result reached in this case is a hardship, the remedy lies with the legislature, not with the courts." The lower court's judgment granting an award of 2½ percent of partial permanent disability was therefore reversed. The Supreme Court's judgment has now been affirmed by the New Jersey Court of Errors and Appeals, 54 A. 2d 731, for the reasons expressed by Justice Colie in his opinion.

### Preventive Medicine Branch Forms Interim Board

Recent conditions have emphasized the need for uniformly high standards in the field of public health and preventive medicine, and the "Interim Board" of Preventive Medicine was formed chiefly for the purpose of setting up certification requirements for medical officers seeking to qualify as specialists.

The cooperative effort of the Army, Navy, and U. S. Public Health Service will undoubtedly give impetus to a growing demand for creation of an American Board of Preventive Medicine and Public Health to take its place along with the 16 medical specialty boards already in existence and supply the uniform professional standing and protection specialists need for effective functioning.

The need for this localization of power lies in the fact that the work of the various groups interested in research and practice in this field is largely uncorrelated.

Investigations into multifarious aspects of preventive medicine and public health, are for the most part carried on independently by many private concerns and various agencies of State and Federal governments.

## Virginia Passes Alcoholic Care Bill

After almost two years of investigations and hearings, the State of Virginia has just passed an enlightened bill for the care of problem drinkers. The bill which carries an appropriation of $200,000 for the biennium should serve as a model for the rest of the country.

"Virginia did the logical thing," Joseph Hirsh, acting director of the Research Council on Problems of Alcohol, N. Y., said, "in setting-up a Bureau of Alcohol Studies and Rehabilitation where it belongs, in the State Department of Health, alongside of other bureaus designed to cope with particular health problems."

Mr. Hirsh, who was requested to help draft the Virginia legislation, pointed out that the new law substitutes the general hospital for the jail and places the initial responsibility for the study and treatment of alcoholics upon medical schools and their affiliated hospitals, "the type of institution best qualified by personnel and facilities to undertake such programs."

The new Virginia law is based upon The Research Council on Problems of Alcohol's statement of social action principles made public by its president, University of Chicago physiologist, Dr. Anton J. Carlson.


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## Multiple Sclerosis Society Reports Progress During Its Existence

Today, after less than one year and a half of existence, the National Multiple Sclerosis Society reports that medical research is going forward with vigor in its attack of the number one neurological problem. The Society has grown to approximately 7,500 members, their relatives, friends, and others.

In this period, more than $156,000 has been contributed to finance and administer research in multiple sclerosis.

Recently, the Society announced the start of an important research project, in which the first research clinic to investigate this incapacitating nerve disease was opened in Boston at the Beth Israel and Boston State Hospitals. This is the first of a projected series of clinics which, it is hoped, the Society will be able to finance in other large cities throughout the country.

Another clinic will be opened soon in Albany, N. Y., in the Albany Hospital, where neurologists of the Albany Medical College will cooperate with the Division of Research and Laboratories of the New York State Department of Health in conducting the research.

In its first year, the National Multiple Sclerosis Society made a grant of $64,350 to Columbia University for a three-year research project that is being carried on at the College of Physicians and Surgeons and the Neurological Institute of New York. This study may furnish a clue to the possible cause of multiple sclerosis.

Also, in its first year, the Society started two surveys of the prevalence of multiple sclerosis in European countries, and in England, where the disease is notably present.

Another important research project which has won the endorsement of the Society's Medical Board, and which will be undertaken shortly with the cooperation of the U. S. Public Health Service, is a nation-wide statistical survey of the prevalence of multiple sclerosis throughout the country, and the influence of climate and other factors upon its distribution.

Evidence that interest of the medical profession in multiple sclerosis has been aroused—after having been dormant for 25 years—is seen in the recent establishment by the National Association for Nervous and Mental Diseases of a Multiple Sclerosis Commission for 1948. This Commission will make a survey of the entire field and certain investigations have been assigned to individual members, who will report on their findings at a meeting scheduled for December 1948.

* * *

Meige's disease is the name given to *Milroy's disease*, or congenital edema elephantiasis of the lower limbs. Henry Meige gave a description of the condition in 1899.

* * *

Jay Frank Schamberg first described the disease to which his name has been given in 1901. Schamberg has become identified with research studies in psoriasis, and with independent activities in the therapeutic endeavors of the upkeep of the supply of arsphenamin—during and after the World War. He also described Grain itch.

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## Industrial Relations Authority Finds Realism in ANA Collective Security Program

The American Nurses' Association's Collective Bargaining Program is demonstrating how an income commensurate with professional training can be secured without sacrificing professional ethics or resorting to non-professional tactics, according to Dr. Herbert R. Northrup, Columbia University industrial relations professor. He makes this statement in a comprehensive analysis of the activities of professional organizations as bargaining agents entitled "Collective Bargaining and the Professions", which appeared in a recent issue of the *American Journal of Nursing*.

In his article Dr. Northrup examined those professions which have engaged in collective bargaining activities: engineering, teaching and nursing. Of the three, he found the program of the nurses to be more "realistic and dynamic".

Dr. Northrup notes that hospital personnel practice must be thoroughly reorganized and accommodated to new developments in personnel management.

"The best practices of industry should be adopted to non-profit institutions. The fact that the first group to bargain collectively consists of professional nurses may well ease hospital management's transition to a modern personnel establishment," he declares.

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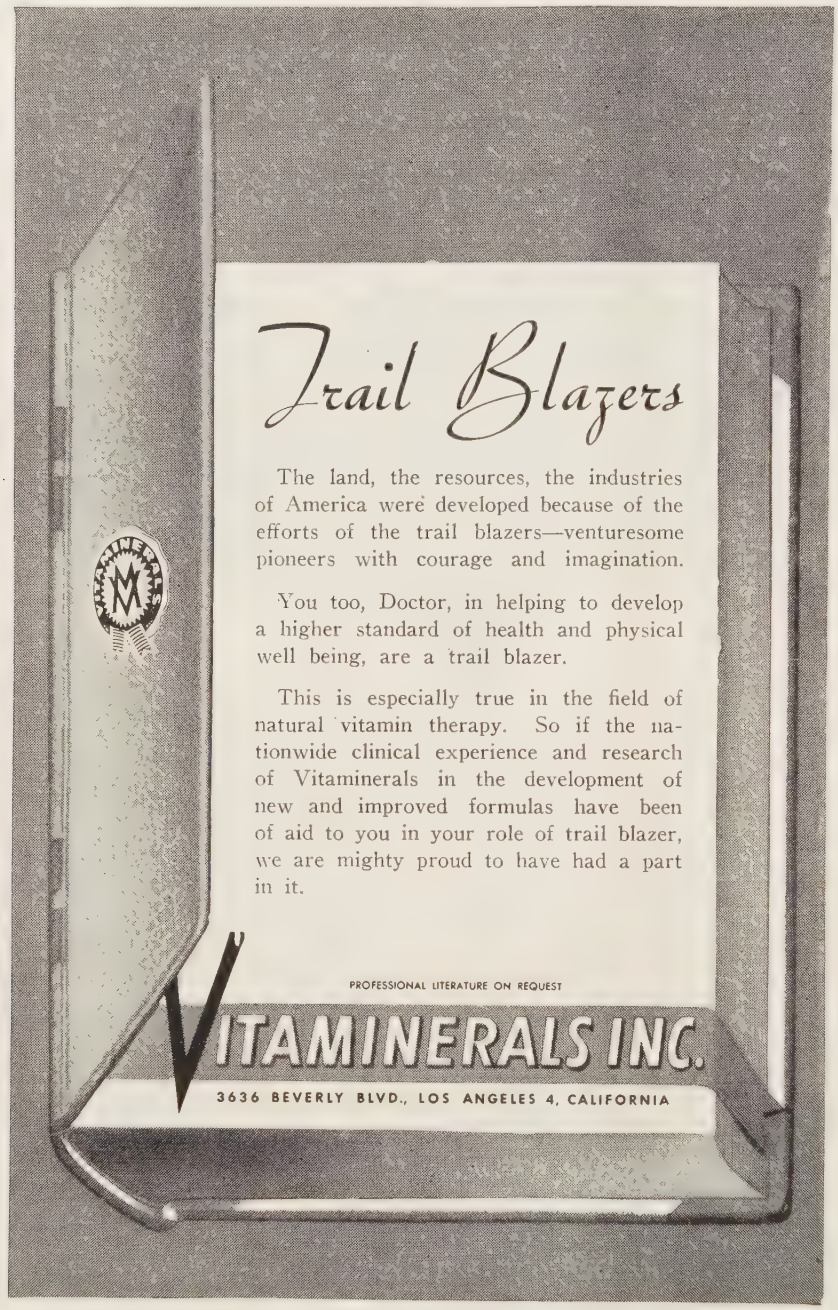
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of nurses who are employed in non-profit hospitals and other agencies not subject to the controls of the National Labor Relations Act," says Dr. Northrup.

America's nurses have demonstrated considerable initiative and foresight in the mechanics of collective bargaining, the article shows. Hospital contracts obtained by state nurses' associations, and now in force, cover salaries, hours and all other employment terms for nurse employees, with sound grievance machinery for prompt, amicable settlement of dissatisfactions.

Giving emphasis to the need for collective action in matters affecting economic security, Dr. Northrup comments, "The professions and the country are suffering from a strange malady which permits janitors and truck-drivers to earn more than teachers and nurses."

Professional men and women, caught in a fixed-salary, inflationary price-squeeze, are not sharing the high profits of business nor the bargaining powers of labor, he notes, in emphasizing the significance of the nurses' program in the total economy.

### VA Shows No Proposed Decrease of Medical Personnel

No decreases are contemplated in the VA medical program for the balance of this fiscal year, ending June 30, 1948. In VA's recommended budget for the fiscal year 1949, an increase is proposed in the medical program.

Veterans are encouraged to enter medical school under the G. I. Bill or Public Law 16, for they stand a better-than-average

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chance of completing their training successfully if they meet any, or preferably all, of the following qualifications:

1. Obtain grades of B plus or better in their pre-medical training.

2. Make particularly high grades in the natural sciences.

3. Enroll in medical schools in the same educational institution in which they completed their pre-medical work.

These conclusions, compiled by Veterans Administration from previously published studies, were distributed in a bulletin to VA vocational advisers and training officers. Purpose of the bulletin is to help VA officials advise ex-servicemen and women desiring to enter medical school under either law.

The research findings analyzed by VA disclosed that students who attend medical schools in the same educational institutions where they took their pre-medical training consistently make better grades than students who transfer from other schools. The percentage of failures of "native" students also was appreciably lower than for transfer students.

VA explained the consistently superior accomplishments of "native" students by the fact that medical schools, able to consult personally with pre-medical faculty members about the qualifications of applicants, are in a position to select those applicants most likely to succeed.


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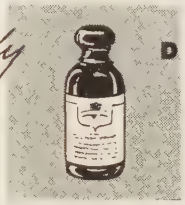
*Specify*  **DPS FORMULA 321**

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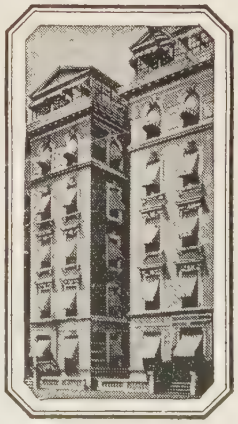

# NEW PRODUCTS

## New Fresh Fruit Spreads Employ Use of Glycerine

An important use for glycerine is seen in processes for making two new types of fruit spreads which retain the natural full flavor, aroma, and color of the fresh fruit.

These new products were developed at the Western Regional Research Laboratory, Albany, Calif., by G. Johnson and M. M. Boggs. They report that the retention of volatile flavor constituents, which are ordinarily lost, altered, or destroyed in conventional methods involving boiling, is due to the fact that heat is not applied at any stage, and preservation is accomplished by storing at 0° F. or lower.

These fruit spreads are made from freshly prepared fruit purees or juices, or those preserved by freezing without added sugar. Any fruit with a pH of approximately 3.0, or which can be adjusted to such a pH by adding fruit acid, can be used. The process is as follows: 1. Disperse and dissolve dry, rapid-set citrus pectin, mixed with sugar or glycerine, in fruit puree or juice. The solids content should not be over 25 percent after adding the pectin. 2. Increase the soluble solids to 56.5 percent by adding sugar. 3. Package and allow the mixture to set to a gel before placing it in freezer storage. As is usual, the products are defrosted prior to use. The consumer stores the product in an ordinary household refrigerator (at 40-50° F.) between servings or other uses.

It is said that the pectin-dispersing procedure which employs glycerine is somewhat simpler than that using sugar. The small amount of glycerine needed to disperse the pectin makes it possible to dissolve pectin in purees already containing as high as 20 to 25 percent soluble solids. Johnson and Boggs stated also that glycerine has other advantages in the making of the new frozen jam and jelly-like products.

## New Fluoroscopic Screen Speeds Accurate Diagnosis

Production of a new Patterson Fluoroscopic Screen which gives 40 percent more brilliance than its predecessor, the Type B Screen, has been announced by the Du Pont Company. It is available for immediate delivery.

Known as the Type B-2 Patterson Fluoroscopic Screen, this achievement of research by the company's Patterson Screen Division is a zinc cadmium sulfide screen which permits a more accurate diagnosis in less time.

The extra sensitivity may be utilized either by taking advantage of increased brilliance which permits greater visibility, or in cutting the x-ray energy to reduce exposure both to the patient and the roentgenologist.

The fluorescence of the new screen is a bright yellow-green, a color to which the eye is most sensitive, thus assuring maximum visual acuity with less fatigue. It has no objectionable afterglow and the increased brilliancy does not alter contrast.

## Water Soluble Oils By Glyco

A recent development that has been translated to commercial production by the Glyco Products Co. Inc., now makes available in commercial quantities a number of chemical esters, of an oily character, that dissolve clearly in water.

Chemically these products are polyoxyethylene oleates and laurates having a molecular weight above 800. They are non-ionic, non-toxic, light in color and fluid or grease-like in consistency. They dissolve clearly in water, alcohol, esters, hydrocarbons and vegetable oils. At 20°C—they are slightly heavier than water. They all have high boiling points and exhibit surface-active properties.

The above properties indicate their use as special detergents in textile and fiber processing; as penetrating lubricants; grinding media for pigments; plasticers for water dispersed products and water-insoluble resins, elastomers, plastics, coatings etc.; emulsifying agents for oils and hydrocarbons.

They are produced and sold under the names of Polyethylene Glycol Mono Oleates (S1005) and (S1010) and Polyethylene Glycol Mono Laurate (S1019) by the Glyco Products Co. Inc.

## Al-Si-Cal Tablets In New Dosage Form

Al-Si-Cal tablets, a new dosage form of Al-Si-Cal powder has now been made available to the medical profession by The Smith-Dorsey Company, of Lincoln, Neb., a member firm of the American Pharmaceutical Manufacturers' Association.

Al-Si-Cal tablets combine gastric antacids with a sedative, anti-spasmodic and anesthetic and are intended for the temporary relief of pain and gastric disturbances associated with hyperacidity and hypertonicity. They are especially handy for the ambulatory patient. Each Al-Si-Cal tablet will neutralize 237 cc. N/10 acid in the stomach.

The dosage recommended is two tablets in water, one hour after meals. Al-Si-Cal tablets will be supplied in bottles of 100 and be available through wholesalers and druggists.

## Premo Introduces Penicillin Syringes

Premo Pharmaceutical Laboratories has announced the availability of free-flowing Crystalline Procaine Penicillin G in Sesame Oil in 1 cc. syringes (300,000 units) and 10 cc. vials. Once again Premo uses its popular glass disposable syringe to bring

added convenience to the physician in the administration of procaine penicillin.

With procaine penicillin, Premo introduces the disposable syringe combination consisting of six disposable Procaine penicillin syringes, 6 sterile needles, 1 plunger and the plush physician's carrying case. No refrigeration is required.

## Pardess—New Vitamin Product Released

The national release of *Pardess* principal B-complex factors, a new vitamin product, was announced by Sharp & Dohme, Inc., Philadelphia drug manufacturers.

Feature of this new preparation is the preservation and prolongation of vitamin activity by the lyophile technique, (dessication under vacuum from the frozen state), a method developed by the company's medical research division.

Each Vacule vial of *Pardess* contains thiamine hydrochloride (vitamin B1), 25 mg., riboflavin (vitamin B2), 10 mg., pyridoxine hydrochloride (vitamin B6), 5 mg., calcium pantothenate, 50 mg., niacinamide, 250 mg.

Pardess is indicated in any and all conditions where injectable B-complex might be desired whether it be in deficiency states, surgery, febrile illnesses or convalescence.

Daily dosage, intramuscularly, is the contents of one Vacule vial restored to 1 cc. Daily dosage, intravenously, is the contents of one Vacule vial restored to 5 cc.

Pardess is supplied in packages of five 5-cc. Vacule vials of lyophilized material and five 5 cc. vials of water for injection. It is also supplied in packages of twenty-five 5-cc. Vacule vials of lyophilized material (without diluent).

## Sterling-Winthrop Conducts Research For Improvement of Penicillin

Scientists of the Sterling-Winthrop Research Institute, Rensselaer, N. Y., have uncovered new knowledge regarding the changes that occur in disease producing organisms trained to become resistant to that potent antibiotic.

The findings were published in two papers by Dr. W. D. Bellamy and J. W. Klimek in the February issue of the *Journal of Bacteriology*. In a popular explanation of the papers released here, the scientists revealed their studies showed that "increased resistance to penicillin is accompanied by a fundamental change in the mode of life of the organisms or germs."

Selected strains of Staphylococcus aureus, the germ that causes boils, carbuncles and other similar skin infections, were trained by the scientists to resist 60,000 times as much penicillin as the original culture. They were then no longer able to grow in the absence of oxygen.

"The disease producing organisms became entirely transformed," the investigators said. "They were autotrophic, a scientific term that may be popularly defined as 'like a mongrel pup, capable of eking out existence by the simplest sources of energy'."

In scientific language what happens is this:

"Staphylococci are recognized by the bacteriologist by their round shape, arrangement in grape-like clusters, by a violet color developed by Gram's stain (gram-positive), and they are characterized physiologically by being able to grow in 6.5 percent sodium chloride, to reduce nitrate to nitrite, and to ferment a variety of sugars.

"It was found that during the development of resistance, these properties are gradually lost until, at a final resistance of 60,000 times the original, only the property of fermenting glucose remains. The organism gains the ability to produce a penicillin-destroying enzyme, which it liberates into the growth medium and the ability to synthesize nicotinic acid, a vitamin required by the penicillin-sensitive culture.

"It has changed from typical gram-positive staphylococci into organisms which may vary from a sphere to a rod in shape, and has lost the ability to retain the violet coloration of Gram's stain.

"In the terminology of the bacteriologist, it has become gram-negative and pleomorphic. Continued transfer in nutrient broth in the absence of penicillin will no longer cause either a loss of penicillin resistance or a return to the gram-positive coccus form. However, growth in a medium deficient in protein and vitamins will cause a complete reversal of form and a significant loss of penicillin resistance."

Continuation of experiments developing such knowledge should result in "a more successful use of present antibiotics and synthesis of new antibiotics," the scientists said.

## Cellothyl—New Bulk Laxative In Tablet Form

The metamorphosis in the gastrointestinal career of *cellothyl*, the new bulk laxative for the treatment of functional constipation, began as an ordinary easily-swallowed tablet, then it became an inert liquid passing through the small intestine, and now it is an active bulking laxative gel in the colon, far down the gastrointestinal tract.

Recently introduced by the Maltine Company, New York City, a member firm of the American Pharmaceutical Manufacturers' Association, this new type of bulk laxative has gained the attention of physicians and pharmacists. For it is the first bulk laxative in *tablet form*.

Due to its tablet form the average dose is easy and convenient to take—three tablets swallowed with water. *Cellothyl* forms a gel not in the stomach or small intestine, but later in the colon, where bulking is desired.

In developing *cellothyl*, The Maltine Company worked to achieve certain important objectives in the bulk laxative field.

For example, the tablet form chosen obviates all need for messy preparation of the dose and avoids premature action, such as sticking to dentures and bloating in the stomach.

In addition *cellothyl* in tablet form makes for accurate, routine dosage of a pure substance that is always uniformly dependable. *Cellothyl* is fair-trade price-protected.

## Union of New York Medical School And Bellevue Medical Center Proposed

A proposed union plan of the properties and programs of the New York Post-Graduate Medical School and Hospital and New York University-Bellevue Medical Center recently was made in a statement issued jointly by Chancellor Chase of New York University and Charles S. McVeigh, chairman of the executive committee of Post-Graduate.

The proposed union was suggested by Rush H. Kress, vice-president of the Samuel H. Kress Foundation, who announced his support of the present needs of postgraduate work in both institutions for the remainder of this year to the extent of providing additional funds in the amount of $162,000 of which $81,000 has now been made available by the Kress Foundation.

The proposed union will give New York University an opportunity to broaden its base for postgraduate training and will furnish an important unit of the Medical Center.

Edwin A. Salmon, director of New York University-Bellevue Medical Center described the organizational and physical planning of the new Center. He stated that prior to the construction of new buildings, the Medical Center proposed to continue the operation of Post-Graduate facilities for teaching, research and clinic purposes and as an interim University Hospital. The University hospital, as conceived for the new Center, will offer services primarily for the middle income group.

In addition to the usual basic facilities of such a Center, the program provides for a high degree of coordination through the establishment of special institutes. These include: Rehabilitation and physical medicine, industrial and social Medicine, cardiovascular diseases, cancer, and others.

It is hoped that the construction on some of the buildings will begin towards the latter part of the year. A public appeal for $15,575,000 in funds needed to further the Medical Center's program is now under way.

## Iowa Improves Teaching Plan In School of Nursing

Under the new approved plans initiated by the State University of Iowa's School of Nursing, it will now be possible to add new instructors and assistant professors, whose primary responsibility will be the instruction of students without having to divide their time and attention between instructional duties and the rendering of service to patients.

These additional teachers will be able to supplement bedside instruction given by the nursing staff of the University Hospitals. The augmented staff will be able to give more individual attention to the student and her progress.

It is contemplated that the school of nursing will offer training at three levels:

1. A three-year curriculum open to high school graduates which will graduate her as a registered nurse.
2. A four to five-year program combining study in the College of Liberal Arts and in the School of Nursing, leading to a Bachelor of Science in Nursing.
3. A series of postgraduate courses in several specialized areas of nursing service, such as public health nursing; psychiatric, orthopedic, obstetric, and pediatric nursing; and in conjunction with the Graduate College and the College of Education.

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## Dr. Cox Describes Use of Sound Waves In Measurement of Temperature

Dr. Everett F. Cox, Naval Ordinance Laboratory, Washington, recently described how sound waves can be used to measure upper atmosphere temperatures. He explained that around a source of loud noise, such as the explosion of an ammunition dump, there are alternate rings of noise and silence. No noise may be heard at one place and a few miles further away windows may be shattered by sound waves.

Dr. Cox said that this condition is caused by layers of hot air in the upper atmosphere which serve as reflectors.

Further explanation revealed that the first layer of air above the earth, extending 8 to 20 miles averages about 75 degrees F. below zero. The next layer containing a high proportion of ozone which absorbs ultraviolet rays from sunlight which heats it, averages about 100 degrees above zero. Beyond this is another layer of colder air and still higher the temperature again rises.

"Since sound waves are bent back to the earth by the hot layers of the upper layers of the upper atmosphere, measurements of sounds received at great distances from explosions can be used to calculate temperatures of the earth's outer air layers," he said.

This research is important particularly in solving problems of supersonic flight.

"Temperature values calculated from these records," Dr. Cox said, "show an ozonosphere peak of 70 degrees F. at 35 miles altitude, a dip to minus 150 degrees at 45 miles, then a temperature rise to 260 degrees at 100 miles above the earth."

## Alcoholism Research Injected With $30,000 Grant

The continuation of promising research into the causes and treatment of alcoholism is assured by a grant of $30,000 from The Research Council on Problems of Alcohol to the Cornell University Medical College. This is the second installment of the five-year $150,000 project.

"The Cornell project," according to Hirsh, acting director of the Council, "is no test-tube research undertaking. Patients receive treatment while they are studied. All the resources of medicine, psychology, sociology and related skills are utilized in the diagnosis and treatment of alcoholic patients."

Only a limited number of patients, and those from the immediate vicinity of New York, are admitted to the Cornell Center. The patients are hospitalized at the Payne Whitney Clinic where they are carefully studied and thorough physical and psychological examinations are performed.

After a period which may range anywhere from one to five months in the hospital, patients may resume their regular jobs while living at the Payne

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Whitney Clinic. Upon discharge from the hospital, they return to the Clinic for regular check-ups and treatment.

During the first year of the project, certain blood substances, as yet unidentified, were discovered in connection with specific emotional states. After a drinking round these substances were found to disappear from the alcoholic's blood, but return according to preliminary findings of the Cornell study, with the increasing psychological need for another drinking bout.

The significance of these factors have yet to be fully determined.

## National Health Assembly To Map Out Public Health Service Plan

How to provide basic public health services to every person in every community in the Nation will be one of the 14 major topics for consideration at the National Health Assembly, to be held in Washington, May 1 to 4.

Oscar R. Ewing, federal security administrator, has asked professional and lay leaders concerned with all aspects of health to advise him on framing his report to the president. Dr. Haven Emerson, chairman of the subcommittee on local health units of the American Public Health Association and professor emeritus of public health, School of Public Health, Columbia University, will be chairman of the section on local public health units. Dr. Emerson will be assisted in planning the work of the section by a small committee drawn from among delegates of the section.

In announcing the formation of the section on local public health units, Ewing pointed out that in most areas local tax resources are so limited that public health services cannot be provided even on a minimum basis. It is estimated that 63 percent of the American people live in areas ostensibly served by full-time, locally administered public health departments, but personnel and training limitations reduce the effective operation of these units below a safe minimum.

"Actually," he said, "less than 3.4 percent of the people live in areas that are protected by the services of local public health departments that employ the basic minimum staff."

Only one section of the National Health Assembly will be concerned specifically with local public health problems. However, the problems of local public health cut across most of the subjects to be considered by the 13 other sections. These include professional personnel, hospital facilities, chronic disease, maternal and child care, rural health, research, medical care, community planning, rehabilitation, dental health, mental health, accidents and nutrition.

Findings of these 14 sections, Ewing said, should assist him materially in drawing up the 10-year national program requested by the president.


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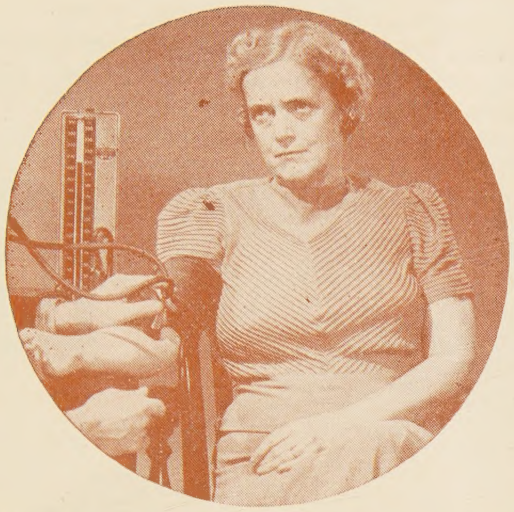

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|---|---|---|---|---|---|---|---|---|---|---|---|
| SYSTOLIC Male | 117.0 | 120.2 | 121.2 | 121.8 | 122.9 | 124.3 | 126.0 | 128.1 | 130.3 | 131.9 | 134.2 |
| Female | 114.7 | 116.4 | 117.7 | 118.7 | 120.4 | 123.6 | 127.1 | 129.8 | 132.5 | 133.7 | 135.4 |
| DIASTOLIC **Male | 76.4 | 78.1 | 78.8 | 79.5 | 80.4 | 81.4 | 82.3 | 83.3 | 84.3 | 84.5 | 84.0 |
| Female | 75.8 | 77.1 | 78.0 | 78.6 | 79.9 | 81.9 | 83.9 | 85.4 | 86.8 | 86.8 | 84.4 |

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*Blood Pressure. Report of Joint Committee on Mortality of The Association of Life Insurance Medical Directors and The Actuarial Society of America. New York, 1925. pp. 10, 52.

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